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Agriculture

Food Safety
and Inspection
Service

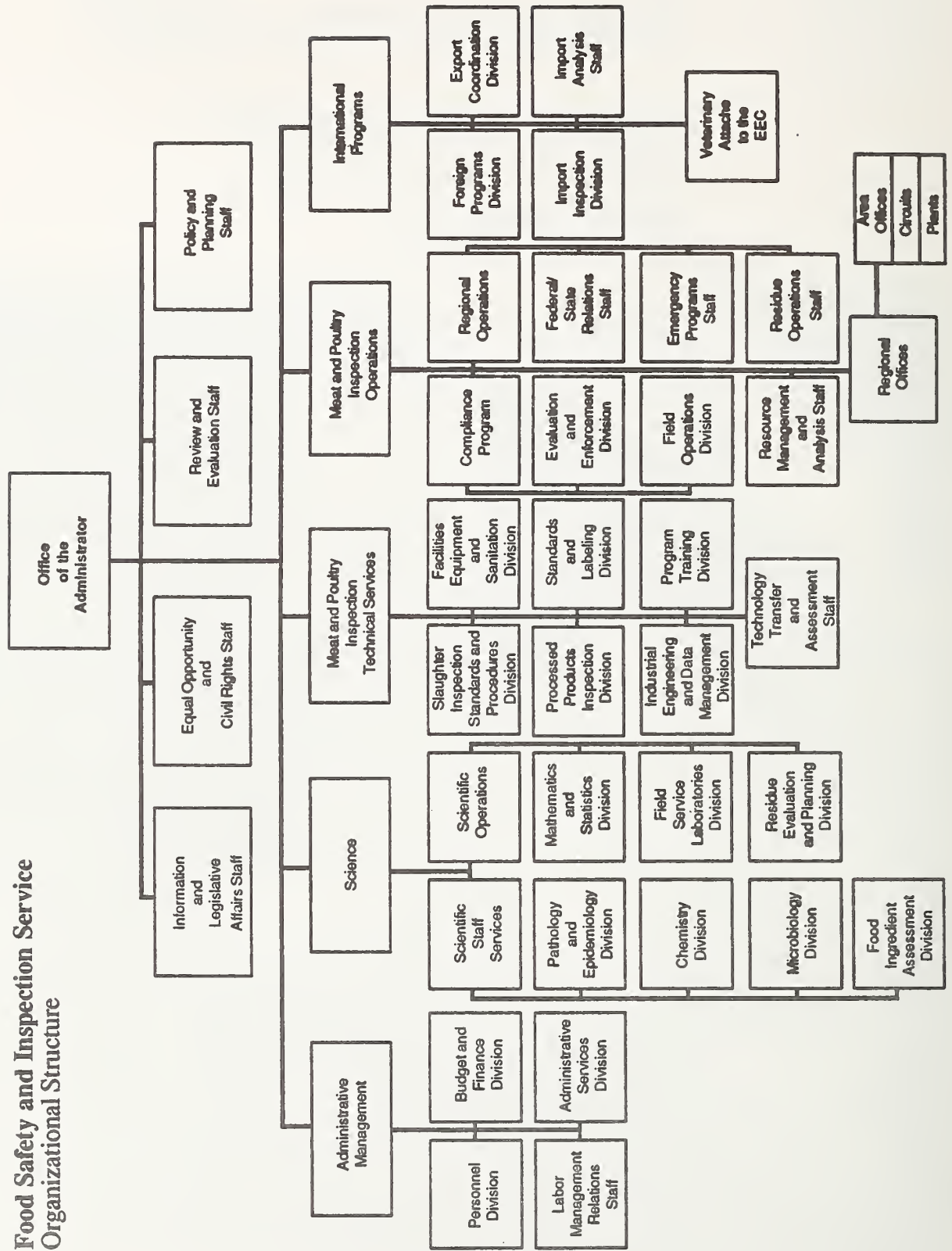
March 1, 1988

Meat and Poultry Inspection, 1987

Report of the Secretary
of Agriculture to the
U.S. Congress



Food Safety and Inspection Service Organizational Structure



Preface

The Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture (USDA) is responsible for administering a comprehensive system of inspection laws. In carrying out its mission, FSIS strives to maintain a safe, wholesome, and accurately labeled food supply at the least possible cost to the American taxpayer. The Agency's actions and accomplishments during 1987 reflect its commitment to that goal.

This report summarizes domestic meat and poultry inspection, foreign inspection program review, and related FSIS activities during the past year. Information about domestic inspection is presented on a fiscal year basis to complement the congressional budget process. Information on review of foreign inspection systems is presented on a calendar year basis, as required by law.

Part 1 of this report describes FSIS and its responsibilities. It also describes the organizational units involved in meat and poultry inspection and related functions, and it shows the interdependence of these units.

Part 2 statistically summarizes domestic inspection and related activities for fiscal year 1987 (October 1, 1986, through September 30, 1987).

Part 3 statistically summarizes FSIS review of foreign inspection systems and related activities for calendar year 1987. Foreign Countries and Plants Certified to

Export Meat and Poultry to the United States is presented to Congress as an addendum to this publication. It is available from FSIS upon request.

Part 4 of the report describes Agency actions to improve the efficiency and effectiveness of inspection and related functions, and actions on issues of public concern.

Readers may also wish to examine the Food Safety and Inspection Service Program Plan for Fiscal Year 1988. Please request it from the *Policy and Planning Staff, Food Safety and Inspection Service, U.S. Department of Agriculture, Room 105 Annex, Washington, DC 20250*.

Questions about this report or about FSIS may be directed to the *Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, DC 20250*.

This annual report to the Committee on Agriculture of the U.S. House of Representatives and to the Committee on Agriculture, Nutrition, and Forestry of the U. S. Senate is submitted as required by sections 301(c)(4) and 20(e) of the Federal Meat Inspection Act, as amended (21 U.S.C. 661 and 21 U.S.C. 620); and sections 27 and 5(c)(4) of the Poultry Products Inspection Act, as amended (21 U.S.C. 470 and 21 U.S.C. 454).

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Organization and Responsibilities-- Food Safety and Inspection Service

The Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture (USDA) assures that meat and poultry products moving in interstate and foreign commerce for use as human food are safe, wholesome, and accurately labeled.

Of the Agency's five major programs, four are directly involved in inspection and supportive activities: Meat and Poultry Inspection Operations, Meat and Poultry Inspection Technical Services, Science, and International Programs. The fifth program, Administrative Management, oversees budget and finance, personnel, administrative and labor-management relations functions. Each program is headed by a Deputy Administrator who reports to the Administrator of FSIS.

FSIS carries out USDA's responsibilities under the authority of the Federal Meat Inspection Act and the Poultry Products Inspection Act. These laws protect consumers by assuring that meat and poultry products are wholesome, unadulterated, and properly marked, labeled, and packaged. The laws also protect packers by ensuring that no one gains an unfair economic advantage by putting unwholesome or misbranded products on the market.

FSIS interacts with other agencies within USDA, such as the Agricultural Research Service, the Agricultural Marketing Service, the Animal and Plant Health Inspection Service, the Economic Research Service, and the National Agricultural Statistics Service. FSIS also maintains relationships with other Federal agencies that assure food safety, notably the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA).

Meat and Poultry Inspection Operations

Meat and Poultry Inspection Operations (MPIO) encompasses the FSIS divisions that provide inspection in domestic meat and poultry plants, direct the Agency's compliance activities, administer the Federal-State cooperative inspection program, oversee residue monitoring operations, and coordinate FSIS actions for handling emergency contamination problems.

MPIO oversees more than 7,800 Federal inspectors and veterinarians in domestic meat and poultry plants. Only federally inspected meat and poultry plants may sell their products in interstate or foreign commerce.

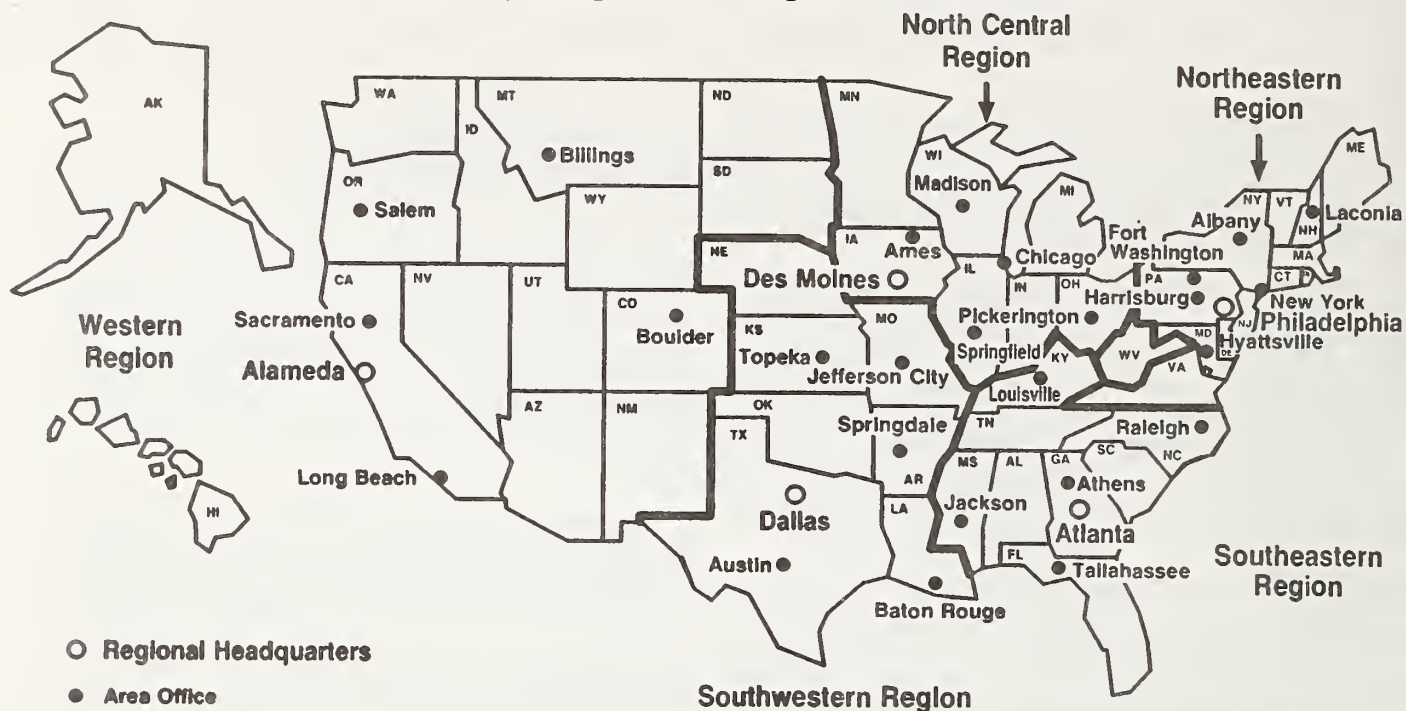
Inspection activities are carried out by a network of five regional offices, area offices, and inspection circuits. Each region is managed by a regional director who reports to the Deputy Administrator of MPIO. Each region, as shown in figure 1 consists of five to six subordinate area offices, each managed by an area supervisor who reports to a regional director. Each area includes several inspection circuits, each managed by a circuit supervisor who supervises inspectors-in-charge of the plants within that circuit. Inspectors-in-charge supervise in-plant inspectors.

The majority of the inspection workload is borne by field employees--the work force of food inspectors and veterinarians who actually perform inspection in meat and poultry slaughtering and processing plants.

REGIONAL OPERATIONS of MPIO provides directions to regional offices to assure uniformity and effective coordination of field inspection activities.

The **Emergency Programs Staff** of Regional Operations coordinates FSIS actions in response to residue, microbiological, and other contamination problems. When appropriate, this staff seeks voluntary company recall of products suspected of being adulterated or misbranded.

Figure 1: Meat and Poultry Inspection Regions and Area Offices



Note: Area Office in Tallahassee, Florida services Puerto Rico and the U.S. Virgin Islands. Area Office in Salem, Oregon services Alaska. Area Office in Long Beach, California services Hawaii, Guam, American Samoa, and Northern Mariana Islands.

The **Federal-State Relations Staff** of Regional Operations assures that State inspection programs enforce requirements at least equal to those of the Federal inspection laws. State-inspected plants may sell their products only within the State. This staff also gives technical assistance to plants operating under the Talmadge-Aiken Act.

The **Residue Operations Staff** of Regional Operations provides operational control and direction for the Agency's ongoing residue monitoring programs. The staff oversees routine and surveillance product sampling for residues. The rate of sampling for residues in meat and poultry products has been increased.

The **COMPLIANCE PROGRAM** of MPIO provides primary regulatory control over businesses engaged in transporting, storing, and distributing meat and poultry products after they leave federally inspected establishments. The unit investigates violations of the inspection laws; controls violative products through detentions, civil seizures, and voluntary recalls; and helps assure that appropriate criminal, administrative, and civil sanctions are carried out. The Compliance Program has an Evaluation and Enforcement Division and a Field Operations Division.

In addition, the **Resource Management and Analysis Staff** provides analytical and administrative management support for MPIO.

Meat and Poultry Inspection Technical Services

Meat and Poultry Inspection Technical Services (MPITS) performs much of the developmental and experimental work that serves as the basis for refining and modernizing inspection standards and procedures.

The **Facilities, Equipment, and Sanitation Division** of MPITS develops standards for plant facilities, equipment, and sanitation programs to help assure sanitary and wholesome products. This division also approves drawings of and specifications for meat and poultry facilities and equipment before they are used in federally inspected plants.

The **Industrial Engineering and Data Management Division** conducts work measurement studies used in the development of more efficient inspection methods and work place design, and in determining staffing needs. This division also develops and man-

ages the Agency's automated information systems, and it operates the FSIS computer facilities.

The **Processed Products Inspection Division** establishes industry operating requirements and inspection procedures for ensuring that processed meat and poultry products are safe, wholesome, and unadulterated.

The **Slaughter Inspection Standards and Procedures Division** develops regulations and standards for use in plants slaughtering meat animals and poultry. This division designs, tests, and helps implement efficient, cost-effective procedures for the ante-mortem and post-mortem inspection of animals.

The **Program Training Division** plans and develops all technical training policies, programs, and activities for FSIS.

The **Standards and Labeling Division** reviews and approves labels for federally inspected domestic and imported meat and poultry products. This division develops formal product standards of identity and composition and determines that ingredients are safe and appropriate for the products in which they are used.

The **Technology Transfer and Assessment Staff** gathers and evaluates information on emerging scientific, technological, and industrial research from a network of U.S. and international sources. This staff assesses research findings and transfers selected information to the appropriate FSIS programs.

In addition, the Program Services Staff provides administrative management support to MPITS.

International Programs

International Programs (IP) carries out requirements of the Federal meat and poultry inspection laws to assure the wholesomeness of imported meat and poultry products. It does so by: (1) reviewing foreign inspection systems to assure that they are equal to the U.S. system; (2) conducting reinspection of imported meat and poultry products entering U.S. commerce; (3) representing U.S. interests throughout the world to minimize regulatory impediments to trade in meat and poultry products; and (4) coordinating the inspection and certification of meat and poultry products for export into foreign commerce.

IP handles liaison activities with other Federal agencies involved in international policy development, and with industry representatives involved in domestic and international trade in meat and poultry products.

The **Foreign Programs Division** is responsible for assuring that meat and poultry imports are produced under inspection systems like that of the United States, and that the products meet U.S. requirements. This is

accomplished by regularly evaluating the effectiveness of each eligible foreign inspection system to control product in the following risk areas: disease, residues, contamination, processing, and economic fraud/compliance. The frequency of the evaluations is determined by prior history, product diversity, system complexity, and risk area evaluations.

The Foreign Programs Division staff evaluated the effectiveness of 30 eligible systems through reviews of production and storage facilities, laboratories, and numerous other operating environments such as ports of loading, research facilities, and training programs. The data from reviews are reported in Foreign Countries and Plants Certified to Export Meat and Poultry to the United States which is printed as an addendum to this report.

The **Import Inspection Division** is responsible for assuring that imported meat and poultry products are properly certified and meet U.S. standards when presented at port of entry for reinspection. A computer-assisted system guides the sampling of imported product for reinspection. Data from reinspections direct subsequent sampling of product from the producing country and establishment. These data also guide the action of the Foreign Programs Division in evaluating foreign inspection systems. A product that does not meet U.S. requirements is refused entry into this country. The product may be returned to the exporting country or destroyed.

The **Import Analysis Staff** manages information resources, policy analysis and development, regulations development, and data systems operations for International Programs and its divisions. The staff also oversees the operation, development, and maintenance of the Automated Import Information System and other computer-assisted systems within IP.

The **Export Coordination Division** facilitates the export of U.S. meat and poultry products. This division maintains liaison with over 70 foreign inspection programs. Division officials meet with foreign government officials about requirements that differ from those of the United States. The division also assists the U.S. meat and poultry industry in exporting to foreign markets by helping to resolve potential differences in the interpretation of requirements. It plans and coordinates reviews of U.S. plants by foreign officials.

The **Veterinary Attache** is responsible for the onsite presentation of the U.S. perspective and position on matters of mutual concern to USDA officials and those of the European Economic Community (EEC) and its member States. The Veterinary Attache is also responsible for communication to and from FSIS on export matters throughout Europe.

Science

The Science Program provides analytical support and scientific guidance to the meat and poultry inspection program. Science services are designed to assure that meat and poultry products are safe from disease, harmful chemicals, and toxins. In addition, laboratory analysis enables FSIS to detect insanitary preparation and economic adulteration (the substitution of cheaper or less desirable ingredients for those required).

Science cooperates with other Federal agencies (notably FDA, EPA, and the Centers for Disease Control), and with State and local health authorities, in carrying out its responsibilities. It develops and maintains close ties with national and international scientific communities in order to keep abreast of scientific and technological advances and to open new avenues for the exchange of scientific information.

In the Science Program, services are divided among two major staffs--Scientific Staff Services and Scientific Operations. In addition, the Science Administrative Staff provides administrative support for Science functions.

The Pathology and Epidemiology Division of Scientific Staff Services develops the pathology, epidemiology, and serology programs that support meat and poultry inspection. It provides laboratory and investigative services, studies infectious agents associated with food, and develops serological tests for infectious and toxic agents found in meat and poultry products. This division operates the Meatborne Hazard Control Center, which investigates reports of potential health hazards.

The Chemistry Division of Scientific Staff Services directs the development and improvement of practical analytical procedures for detecting adulterants and chemical residues in meat and poultry products. This division directs the performance of highly complex chemical analyses in field laboratories, coordinates an accredited laboratory program, and reviews chemistry field service laboratories to assure the quality and integrity of analytical results. In addition, the Chemistry Division is the Agency representative in evaluating New Animal Drug Applications (NADA) with FDA.

The Microbiology Division of Scientific Staff Services provides technical support to the FSIS meat and poultry inspection program and advises other Federal, State, and local agencies. This division develops economical and efficient analytical screening methods for use in laboratories, in plants, and on the farm. The Microbiology Division also plans and maintains a microbiological monitoring and surveillance program, and carries out special investigations on the safety and quality of products and processes.

The Food Ingredient Assessment Division of Scientific Staff Services provides evaluative support, planning, and guidance in the scientific areas of nutrition and product safety. This division evaluates the chemical safety of packaging materials and chemical compounds.

The Residue Evaluation and Planning Division of Scientific Operations provides planning for the FSIS role in controlling drugs and other chemical residues that may occur in meat and poultry products. The Division develops an annual residue plan for the monitoring and surveillance sampling and testing of domestic and imported meat and poultry products. It also provides planning for residue avoidance programs involving producers and official establishments. The Division compiles, evaluates, and publishes annual data from the National Residue Program.

The Field Service Laboratories Division of Scientific Operations is a network of laboratories strategically located to provide analytical support to FSIS activities. The laboratories are located in Athens, GA; St. Louis, MO; and Alameda, CA. FSIS augments the analytical capacity of these laboratories by contracting with State and private laboratories.

The Mathematics and Statistics Division of Scientific Operations provides mathematical and statistical support for the inspection program. This division summarizes and assists in the interpretation of data developed within the Agency, advising other staffs on the validity and application of statistical conclusions.

Units in the Office of the Administrator

The Policy and Planning Staff facilitates the development and documentation of Agency policy, and it coordinates planning. This staff conducts studies for the Agency and for individual program offices; provides a variety of services to offices developing regulations; conducts regulation reviews; performs an agency secretariat function, including providing Freedom of Information and Privacy Act services; provides staff support for the Agency's planning process; and coordinates FSIS emergency preparedness functions.

The Review and Evaluation Staff monitors the effectiveness of FSIS inspection programs and carries out special studies and evaluations to improve program effectiveness. This staff also coordinates the risk assessment portion of FSIS' management control initiatives, and serves as audit liaison with the U.S. General Accounting Office and USDA's Office of the Inspector General.

The Equal Opportunity and Civil Rights Staff provides support for the administration of Titles VI and VII of the Civil Rights Act of 1964 and other applicable laws and regulations. The staff develops policies, evaluates program effectiveness, and assists in the achievement of FSIS objectives.

The Information and Legislative Affairs Staff communicates with the public, Congress, other Government agencies, the media, and internal audiences

about FSIS programs and activities. The staff helps form and implement a comprehensive public information and education program on issues such as food safety and labeling.

The staff operates the toll-free **Meat and Poultry Hotline (1-800-535-4555; 447-3333** in the Washington, D. C. metropolitan area). It also develops and distributes written and audiovisual materials for a variety of audiences and serves as congressional liaison for the Agency.

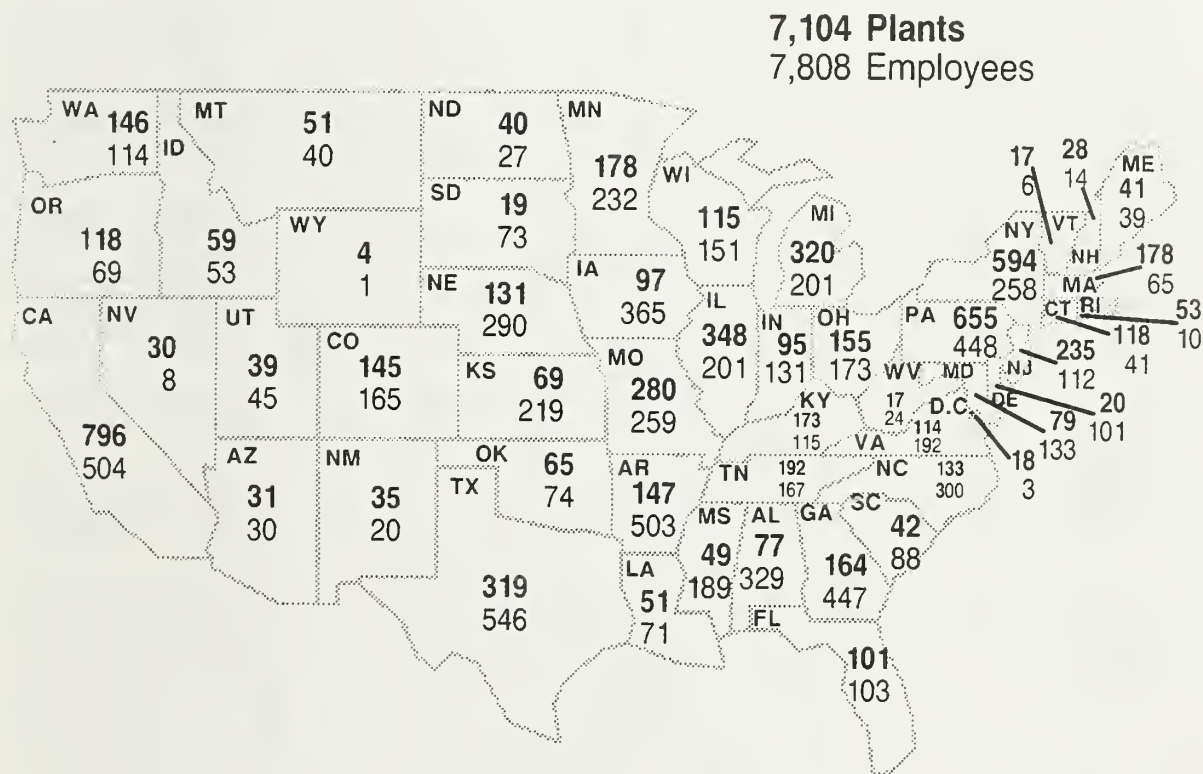


Domestic and Export Inspection

Federally Inspected Plants and Inspectors. Figure 2 shows federally inspected plants and full-time permanent field personnel by location. The plant figures include USDA-staffed plants and Talmadge-Aiken plants, which are federally inspected but staffed by State employees. The plant figures do not include

168 official import establishments. The field employee figures include all USDA field inspectors and field supervisory and support personnel. In addition, 100 inspectors (supported 34 by field personnel) examine meat and poultry imports at points of entry into the United States.

Figure 2: Federally Inspected Plants and Inspectors by Location
September 30, 1987



Alaska $\frac{0}{0}$ Hawaii $\frac{16}{1}$ Guam $\frac{5}{0}$ American Samoa $\frac{1}{0}$ Mariana Islands $\frac{5}{0}$ Puerto Rico $\frac{91}{56}$ Virgin Islands $\frac{5}{2}$

Federally Inspected Plants by State or Territory. Table 1 lists the number of federally inspected meat, poultry, and combination meat/poultry plants that operated under Federal inspection in each State or

U.S. territory as of September 30, 1987. In addition, imported meat and poultry products are examined at 168 official import establishments.

Table 1

State or territory	Meat plants	Poultry plants	Meat/poultry plants	Total
Alaska	0	0	0	0
Alabama	15	28	18	61
American Samoa	1	--	0	1
Arizona	16	--	15	31
Arkansas	50	37	60	147
California	296	53	447	796
Colorado	89	4	52	145
Connecticut	61	5	52	118
Delaware	2	7	0	9
District of Columbia	9	1	8	18
Florida	40	7	50	97
Georgia	20	46	45	111
Guam	1	--	4	5
Hawaii	1	--	1	2
Idaho	25	--	34	59
Illinois	174	9	140	323
Indiana	43	13	34	90
Iowa	51	7	39	97
Kansas	35	1	33	69
Kentucky	102	5	66	173
Louisiana	21	4	21	46
Maine	16	2	23	41
Mariana Islands	2	--	3	5
Maryland	18	15	20	53
Massachusetts	87	16	75	178
Michigan	199	3	118	320

Table 1 (continued)

State or territory	Meat plants	Poultry plants	Meat/poultry plants	Total
Minnesota	49	15	114	178
Mississippi	4	19	9	32
Missouri	128	27	125	280
Montana	19	--	32	51
Nebraska	62	6	63	131
Nevada	10	2	18	30
New Hampshire	9	3	16	28
New Jersey	97	12	126	235
New Mexico	9	1	17	27
New York	295	28	271	594
North Carolina	29	22	26	77
North Dakota	26	1	13	40
Ohio	79	10	65	154
Oklahoma	18	4	24	46
Oregon	64	3	51	118
Pennsylvania	364	44	247	655
Puerto Rico	52	4	35	91
Rhode Island	29	6	18	53
South Carolina	17	9	16	42
South Dakota	11	2	6	19
Tennessee	99	9	84	192
Texas	98	14	169	281
Utah	12	2	20	34
Vermont	6	--	11	17
Virginia	27	12	30	69
Virgin Islands	2	--	3	5
Washington	61	9	76	146
West Virginia	6	2	9	17
Wisconsin	47	12	56	115
Wyoming	1	--	--	--
Subtotal	3,104	541	3,108	6,753
Talmadge/Aiken Plants	179	10	162	351
Total	3,283	551	3,270	7,104

Federally Inspected Plants. Table 2 presents the number of meat and poultry slaughtering and/or processing plants that operated under Federal inspection as of September 30, 1987.

Only federally inspected plants may sell their products in interstate or foreign commerce. Talmadge-Aiken plants are federally inspected, but staffed by State employees.

Table 2

Type of plant	Meat plants	Poultry plants	Meat/poultry plants	Total
Slaughtering	220	164	1	385
Processing	2,012	234	2,731	4,977
Slaughtering and processing	872	143	376	1,391
Subtotal	3,104	541	3,108	6,753
Talmadge-Aiken	179	10	162	351
Total	3,283	551	3,270	7,104

Livestock Federally Inspected. Figure 3 and table 3 summarize the number of meat animals inspected at slaughter in federally inspected plants in fis-

cal years 1985-87. The species listed are those legally classified as meat food animals under the Federal Meat Inspection Act.

Figure 3: Livestock Federally Inspected

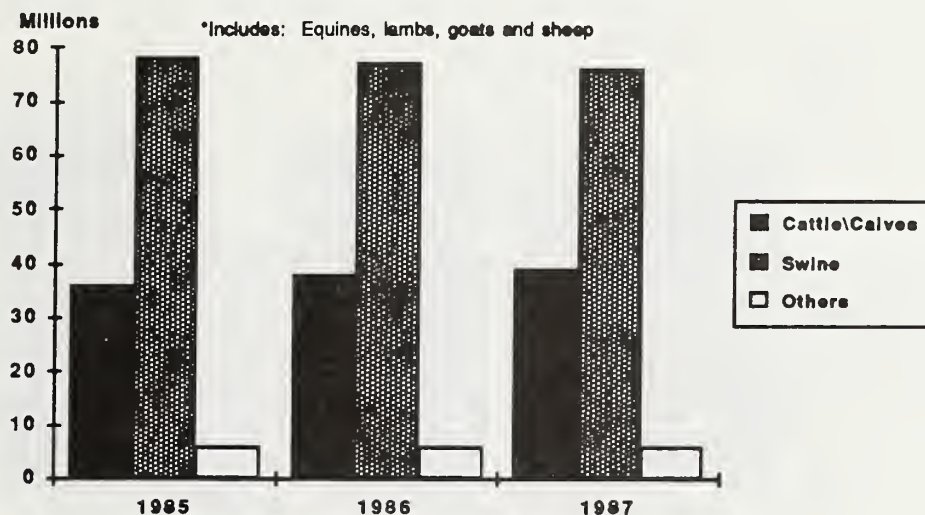


Table 3

Species	1985	1986	1987
Cattle	33,295,000	34,822,000	34,811,000*
Calves	2,983,000	3,215,000	2,779,200*
Swine	78,218,000	77,246,000	76,387,900*
Goats	114,000	147,000	159,000
Sheep & lambs	5,826,000	5,411,000	5,095,600*
Equines	143,000	171,000	246,073,800
Total	120,579,000	121,012,000	119,073,800

*These figures are compiled from the National Agricultural Statistics Service's database. The data consist of final totals for October through December, 1986, and preliminary data for January through October, 1987. Statistical adjustments have been made for condemnations. Since the figures are derived from different databases, direct comparisons should not be made between Tables 3 and 6.

Poultry Federally Inspected. Figure 4 and table 4 summarize the number of poultry inspected at slaughter in federally inspected plants in fiscal years 1985-87. The species listed are legally classified as poultry for food purposes by the Poultry Products In-

spection Act, except for the category "Other." That category includes rabbits and poultry species inspected under voluntary inspection programs. USDA is reimbursed for the costs of such voluntary inspection.

Figure 4: Poultry Federally Inspected

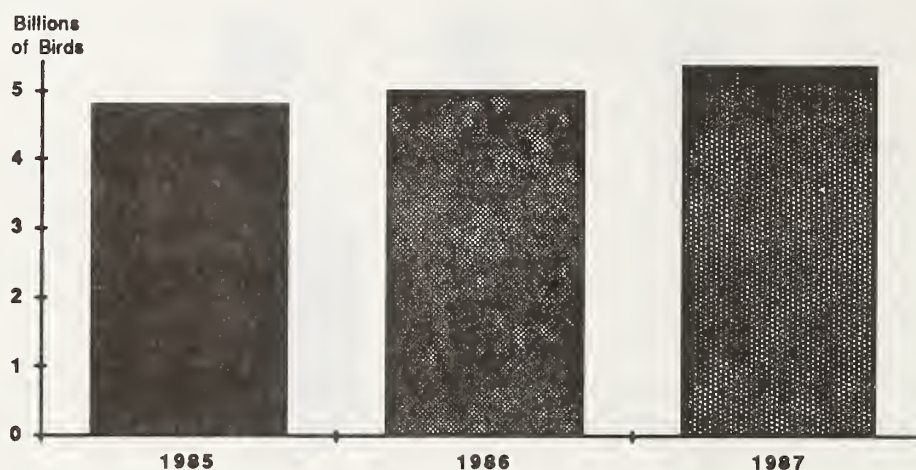


Table 4

Class	1985	1986	1987
Young chickens	4,426,770,000	4,592,625,000	4,927,454,000
Mature chickens	188,979,000	186,588,000	193,055,000
Fryer-roaster turkeys	3,821,000	4,219,000	5,164,000
Young turkeys	166,811,000	186,193,000	216,489,000
Mature turkeys	1,399,000	1,162,000	1,482,000
Ducks	21,355,000	22,676,000	23,093,000
Other	1,107,000	1,242,000	1,555,000
Total	4,810,242,000	4,994,705,000	5,368,292,000

Processed Meat and Poultry Products Federally Inspected. Figure 5 and table 5 summarize the Federal inspection of processed meat and poultry products during fiscal years 1985-87. The weight figures represent the total weight of finished products,

including ingredients other than meat or poultry. The figures reflect some multiple counting of complex processed products, which may require inspection at several points during processing.

Figure 5: Processed Meat and Poultry Products Federally Inspected

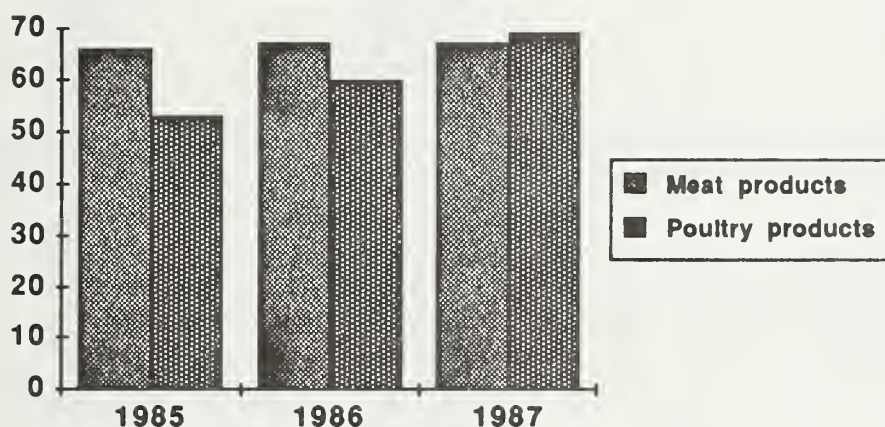


Table 5

Product (billion pounds)	1985	1986	1987
Meat products	66,467	66,605	67,158
Poultry products	53,101	60,471	68,500
Total	119,568	127,076	135,658

Animal Carcasses Condemned. Table 6 summarizes the number of animal and poultry carcasses condemned during fiscal year 1987. Animals are con-

demned for disease, contamination, or adulteration during ante-mortem or post-mortem inspection.

Table 6

Species or class	Inspected carcasses	Condemned carcasses	Condemned as a percentage of those Inspected
Cattle	33,391,732	146,376*	0.44
Calves	2,894,939	44,168*	1.53
Swine	73,046,299	150,209*	0.21
Goats	158,661	1,764	1.11
Sheep	4,570,274	21,250*	0.46
Equine	246,505	1,288	0.52
Total Meat	114,308,410	377,834	0.32
Young chickens	4,927,454,000	52,987,058	1.08
Mature chickens	193,055,000	6,823,173	3.53
Fryer-roaster turkeys	5,164,000	41,986	0.81
Young turkeys	216,489,000	2,587,930	1.20
Mature turkeys	1,482,000	44,953	3.03
Ducks	23,093,000	288,074	1.25
Other	1,555,000	8,803	0.57
Total Poultry	5,368,292,000	62,781,977	1.17

*These figures are derived from the FSIS database. The figures should be used only to estimate condemnation proportions, and not to represent total number of federally inspected meat carcasses. Since the figures are derived from separate databases, direct comparisons should not be made between Tables 6 and 3.

Prior Label Approval. Table 7 summarizes the number of meat and poultry product labels reviewed and either approved or not approved by the Standards

and Labeling Division (SLD) of Technical Services and Inspectors-in-Charge (IIC) during fiscal year 1987.

Table 7

Activity	Number
Labels approved by SLD	136,009
Labels approved by IIC's	23,321
Labels not approved	20,622
Total labels reviewed	179,952

Samples Analyzed. Table 8 summarizes the number of analyses by Science laboratories of meat and poultry samples during fiscal year 1987. Of the

samples, approximately 88,500 were taken from processed products such as hams, sausages, cured meats, and similar items.

Table 8

Category of samples and analyses	Total
Food chemistry	69,463
Food microbiology and species	19,058
Chemical residues	38,808
Antibiotic residues	**237,921
Pathology (residue)	673
Pathology (nonresidue)	11,309
Serology	4,383
Food additives and nonfoods	12,261
Total	393,876

**Includes 25,691 STOP (Swab Test on Premises) and 195,867 CAST (Calf Antibiotic Sulfa Test) analyses.

Compliance Activities. Table 9 summarizes enforcement actions taken in fiscal year 1987. Some of these actions were based on compliance reviews of meat and poultry handlers. Approximately 42,000 re-

views were made in fiscal year 1987. Approximately 14,000 handlers are periodically reviewed; risk categories determine the frequency of scheduled reviews. Random reviews are also conducted.

Table 9

Action	Number	Pounds
Detention of suspect products	800	12,527,392
Monitoring of product recalls	43	5,232,816
Court seizures initiated by Compliance	4	38,864
Evaluation Incident Reports filed		
[Irregularities reported to inspection supervisors]	2,011	
Cases received by Compliance	959	
Cases referred to Inspector General	4	
Cases requiring consultation with General Counsel	63	
Letters of warning issued	1,341	
Convictions	33	
Administrative actions to withdraw inspection filed	5	

Facilities and Equipment Review. Table 10 summarizes the number of blueprints and equipment

drawings reviewed by the Facilities, Equipment and Sanitation Division of Technical Services during fiscal year 1987.

Table 10

Activity	Number
Blueprints of plants	4,055
Drawings of equipment	2,820

Inspection Training. Table 11 shows the number of persons trained by the Training Division of Tech-

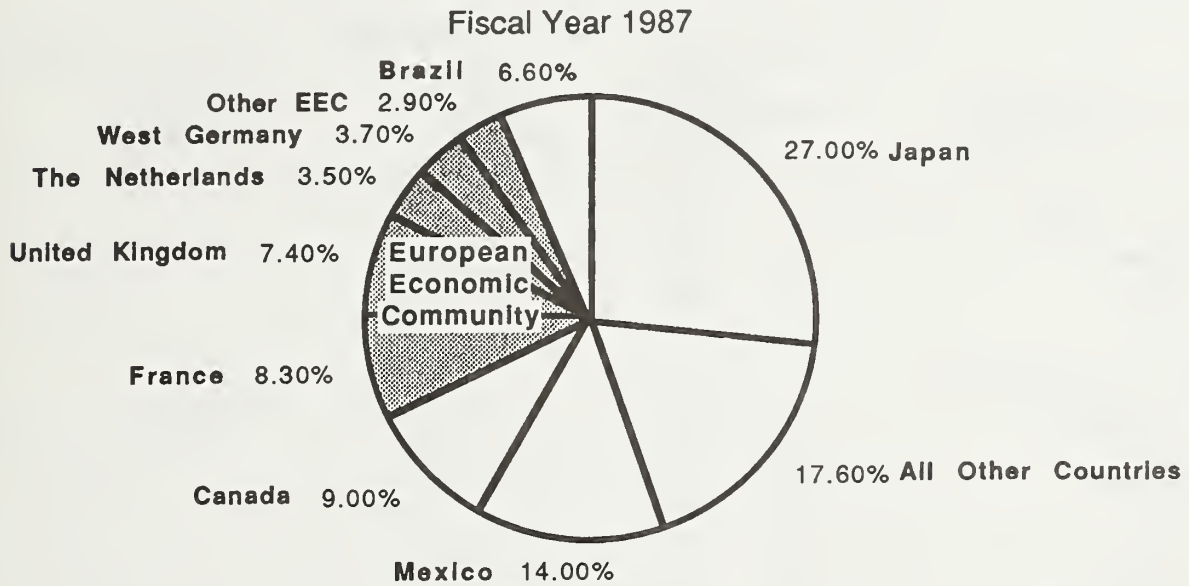
nical Services during fiscal years 1986 and 1987 and the types of training received.

Table 11

	1986	1987
Persons trained		
Federal employees	1,107	1,694
State employees	61	116
Others	120	232
Types of training [number of employees reached]		
Correspondence courses [total]	1,892	1,754
Basic educational skills	757	706
Technical subjects	1,135	1,048
Audiovisual programs	540	1,021

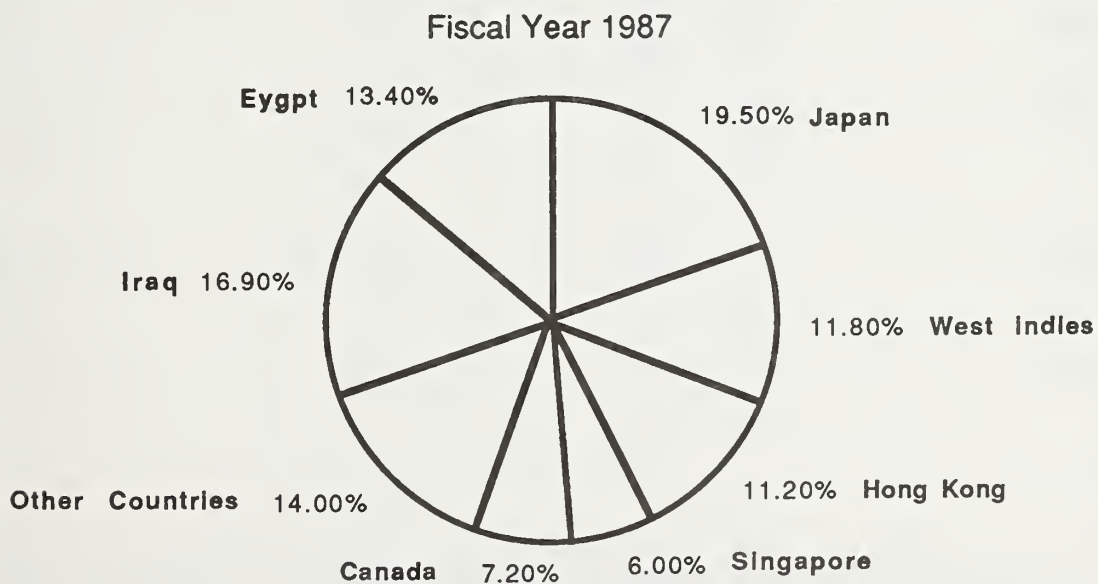
U.S. Meat Exports. Figure 6 shows for fiscal year 1987 the volume of U.S. meat exports and the major countries receiving the products.

Figure 6: Major Receivers of U.S. Red Meat Exports



U.S. Poultry Exports. Figure 7 shows for fiscal year 1987 the volume of U.S. poultry exports and the major countries receiving the products.

Figure 7: Major Receivers of U.S. Poultry Exports



Change in Meat Exports. Table 12 shows the increase or decrease in U.S. meat exports between fiscal years 1986 and 1987, the volume of U.S. meat exports, and the major countries receiving the products.

Table 12

Area/Country	Million Pounds	Percentage of total U.S. meat exports	Change from 1986 In millions of pounds
North America	385	23	29
Canada	150	9	21
Mexico	234	14	9
Other	1	--	-1
South America and Caribbean	231	13.8	38
Belize	3	0.2	-1
Bermuda	5	0.3	-1
Brazil	110	6.6	--
Haiti	7	0.4	1
Panama	5	0.3	1
West Indies	61	3.6	6
Venezuela	30	1.8	30
Other	10	0.6	2
Europe	468	28	49
European Economic Community [EEC]	432	25.8	39
Other	36	2.2	10
Asia	414	28.9	69
Hong Kong	13	0.7	4
Japan	452	27	62
Singapore	3	0.2	1
South Korea	3	0.2	--
Taiwan	6	0.4	1
Other	6	0.4	1
Middle East	82	4.8	-21
Egypt	69	4.1	-20
Iraq	--	--	--
Israel	7	0.4	--
Saudi Arabia	5	0.3	-1
Other	1	--	--
Africa	6	0.4	1
Other	19	1.1	3
Total	1674	100	168

Change in Poultry Exports. Table 13 shows the increase or decrease in poultry exports between fiscal years 1985 and 1986, the volume of U. S. poultry exports, and the major countries receiving the products.

Table 13

Area/Country	Million Pounds	Percentage of total U.S. poultry exports	Change from 1985 in millions of pounds
North America	78	7.7	8
Canada	73	7.2	11
Mexico	4	0.4	-4
Other	1	0.1	1
South America and Caribbean	134	13.2	28
Belize	--	--	--
Bermuda	2	0.2	--
Brazil	--	--	--
Haiti	3	0.3	3
Panama	2	0.2	--
West Indies	120	11.8	20
Venezuela	--	--	--
Other	7	0.7	5
Europe	61	6	9
European Economic Community [EEC]	51	5	4
Other	10	1	5
Asia	380	37.4	54
Hong Kong	114	11.2	28
Japan	198	19.5	17
Singapore	61	6	6
South Korea	2	0.2	2
Taiwan	3	0.3	3
Other	2	0.2	-2
Middle East	318	31.3	240
Egypt	136	13.4	68
Iraq	172	16.9	172
Israel	--	--	--
Saudi Arabia	6	0.6	--
Other	4	0.4	--
Africa	11	1.1	4
Other	34	3.3	6
Total	1016	100	349

Dates USDA Assumed Intrastate Inspection. Table 14 lists the dates the Department assumed inspection in designated States.

Table 14

State	Meat	Poultry
Arkansas	6/1/81	1/2/71
California	4/1/76	4/1/76
Colorado	7/1/75	1/2/71
Connecticut	10/1/75	10/1/75
Georgia		1/2/71
Idaho	7/1/81	1/2/71
Kentucky	1/14/72	7/28/71
Maine	5/12/80	1/2/71
Massachusetts	1/12/76	1/12/76
Michigan	10/3/81	1/2/71
Minnesota	5/16/71	1/2/71
Missouri	8/18/72	8/18/72
Montana	4/27/71	1/2/71
Nebraska	10/1/71	7/28/71
Nevada	7/1/73	7/1/73
New Hampshire	8/7/78	8/7/78
New Jersey	7/1/75	7/1/75
New York	7/16/75	4/11/77
North Dakota	6/22/70	1/2/71
Oregon	7/1/72	1/2/71
Pennsylvania	7/17/72	10/31/71
Rhode Island	10/1/81	10/1/81
South Dakota		1/2/71
Tennessee	10/1/75	10/1/75
Utah		1/2/71
Washington	6/1/73	6/1/73
West Virginia		1/2/71

State Program Data. Table 15 (see next page) summarizes the number of States at the end of fiscal year 1987 with intrastate inspection programs for meat (27) and poultry (23); the number of State program employees as of September 30, 1987; and Federal funding assistance expended by States during fiscal year 1987. "M" after the name of the State indicates

that the State conducted a meat inspection program; "M & P" indicates that the State conducted meat and poultry inspection programs. In order to continue operating intrastate inspection programs, and in order to continue receiving Federal funding assistance, States must maintain inspection requirements at least equal to those of the Federal program.

Table 15

State Inspection Program												
State	Official			Plants			Exempt			Employee Staff		Budget FY 1987 Federal Funding Assistance Expended (* = Estimate)
	Meat	Poultry	Meat/Poultry	Total	Meat	Poultry	Meat/Poultry	Total	Years			
Alabama M&P	74	7	12	93	42	0	0	42	53	962,549*		
Alaska M&P	18	0	5	23	4	0	0	4	12	349,613		
Arizona M& P	64	5	1	70	43	0	0	43	26	432,445		
Delaware M&P	7	0	0	7	2	1	1	4	15	248,291		
Florida M&P	151	4	51	206	48	0	0	48	135	1,905,498		
Georgia M 1/	133	0	0	133	44	0	0	44	130	2,081,059		
Hawaii M&P	54	5	16	75	1	0	0	1	53	889,981		
Illinois M&P	382	31	32	445	23	12	0	35	200	2,962,210		
Indiana M&P	90	10	50	150	37	7	0	44	109	1,735,516		
Iowa M&P	169	7	0	176	159	18	0	177	44	803,547		
Kansas M&P	173	8	6	187	24	1	2	27	63	1,065,845		
Louisiana M&P	128	6	0	134	74	0	0	74	107	1,280,116		
Maryland M&P	50	9	2	61	20	6	1	27	46	766,794		
Mississippi M&P	68	3	12	83	23	3	0	26	79	911,296		
New Mexico M&P	40	1	3	44	25	0	0	25	15	277,779		
North Carolina M&P	200	13	0	213	75	0	0	75	141	2,125,835		
Ohio M&P	261	28	106	395	100	21	0	121	203	3,632,103		
Oklahoma M&P	33	9	58	100	100	0	0	100	93	1,500,752		
South Carolina M&P	66	10	41	117	0	0	0	0	56	851,055		
South Dakota M 1/	59	0	0	59	70	0	0	70	29	303,206		
Texas M&P	462	17	0	479	139	1	0	140	252	3,847,806		
Utah M 1/	35	0	0	35	82	0	0	82	30	496,869		
Vermont M&P	17	0	0	17	17	5	0	22	15	208,552		
Virginia M&P	14	2	5	21	166	0	3	169	49	999,799		
West Virginia M1/	51	0	0	51	66	0	0	66	37	638,463		
Wisconsin M&P	229	12	76	317	144	5	17	166	99	1,868,676*		
Wyoming M&P 2/	31	0	0	31	45	0	0	45	12	1,932		
Total 4/	3059	187	476	3722	1573	80	24	1677	2101	33,147,587		
California 3/	0	0	0	0	387	17	0	404	2	98,429		
Minnesota 3/	0	0	0	0	365	10	0	375	3	131,738		

1/Poultry Program under Federal jurisdiction.

2/Does not accept Federal funds for inspection program.

3/Official plants are under Federal jurisdiction. Custom exempt facilities are reviewed under State jurisdiction.

4/Funds shown exclude the dollars for reimbursable overtime for T/A plants. These costs are federally funded at 100%.

Talmadge-Aiken Plants. Table 16 lists the number of meat and poultry plants inspected under Talmadge-Aiken agreements as of September 30, 1987.

USDA is responsible for inspection in such plants. However, Federal inspection is carried out by State employees.

Table 16

State	Meat plants	Poultry plants	Meat/poultry plants	Total
Alabama	7	—	9	16
Alaska	—	—	—	—
Delaware	8	—	3	11
Florida	2	1	1	4
Georgia	24	—	29	53
Hawaii	9	—	5	14
Illinois	13	1	11	25
Indiana	1	1	3	5
Louisiana	1	—	4	5
Maryland	11	1	14	26
Mississippi	7	—	10	17
New Mexico	3	—	5	8
North Carolina	43	3	10	56
Ohio	1	—	—	1
Oklahoma	3	—	16	19
Texas	22	1	15	38
Utah	1	—	4	5
Vermont	—	—	—	—
Virginia	23	2	20	45
Wyoming	—	—	3	3
Total	179	10	162	351



GREEN TREE'S
SPECIAL TRIM

Green Tree

BONELESS COOKED
**HOLLAND
HAM**

WITH NATURAL JUICES
PRODUCT OF HOLLAND
NET WEIGHT 11 LBS

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Foreign Program Review and Import Inspection

Information on foreign program review and import inspection is presented on a calendar year basis, as required by the Federal Meat Inspection Act. Information on both meat and poultry imports is included.

Although no formal report is required by the Poultry Products Inspection Act, it should be noted that poultry imports are controlled under regulations comparable to those applied to meat imports. Only limited quantities of poultry products, mainly specialty items, are imported into the United States.

Foreign Program Review

Federal meat and poultry inspection laws require countries exporting meat or poultry to the United States to impose inspection requirements at least equal to U.S. requirements. The Foreign Programs Division evaluates foreign meat and poultry inspection programs through system reviews, including on-site reviews of plants in the eligible country.

System Review. System review includes an evaluation of the laws, policies, and operation of the inspection system in each country that is eligible to export products to the United States. FSIS now evaluates country controls in the following risk areas: disease, residues, contamination, processing, and economic fraud/compliance.

On-site Reviews. On-site reviews of exporting plants and system operations--including facilities and equipment, laboratories, and training--are ways FSIS evaluates the effectiveness of foreign inspection systems. Twenty FSIS foreign programs officers conduct on-site reviews in eligible exporting countries. An addendum to this report, Foreign Countries and Plants Certified to Export Meat and Poultry to the United States, summarizes data from 1987 reviews.

Eligible Countries and Licensed Foreign Inspectors. Eligible foreign inspection systems are responsible for the continuous inspection of products destined for export to the United States. Table 17 lists the number of inspectors licensed by each country that exercised its privilege to export meat and/or poultry to the United States in 1987. The number of inspectors in each country depends on the number of certified plants

and the volume of products shipped to the United States. No inspectors are listed for the following eligible countries, which did not exercise export privileges in 1987: Austria, England, Japan, Northern Ireland, Norway, Panama, Paraguay, Scotland, Spain, and Venezuela. "P" indicates the country was eligible to export poultry products to the United States.

Table 17

Number of Inspectors-1987

Country	Licensed Foreign Inspectors
Argentina	306
Australia	1,630
Belgium	45
Belize	4
Brazil	317
Canada	1,482
Costa Rica	37
Czechoslovakia	41
Denmark	1,425
Dominican Republic	20
El Salvador	6
Finland	25
France	68
Germany	33
Guatemala	10
Honduras	41
Hong Kong	10
Hungary	136
Iceland	18
Ireland	30
Israel	42
Italy	30
Netherlands	332
New Zealand	1,292
Poland	838
Romania	243
Sweden	105
Switzerland	26
Uruguay	200
Yugoslavia	133
Total	8,925

Foreign Plants Authorized to Export Products to United States. Table 18 lists, by country, the number of plants certified to export meat or poultry products to the United States during 1987. No plants

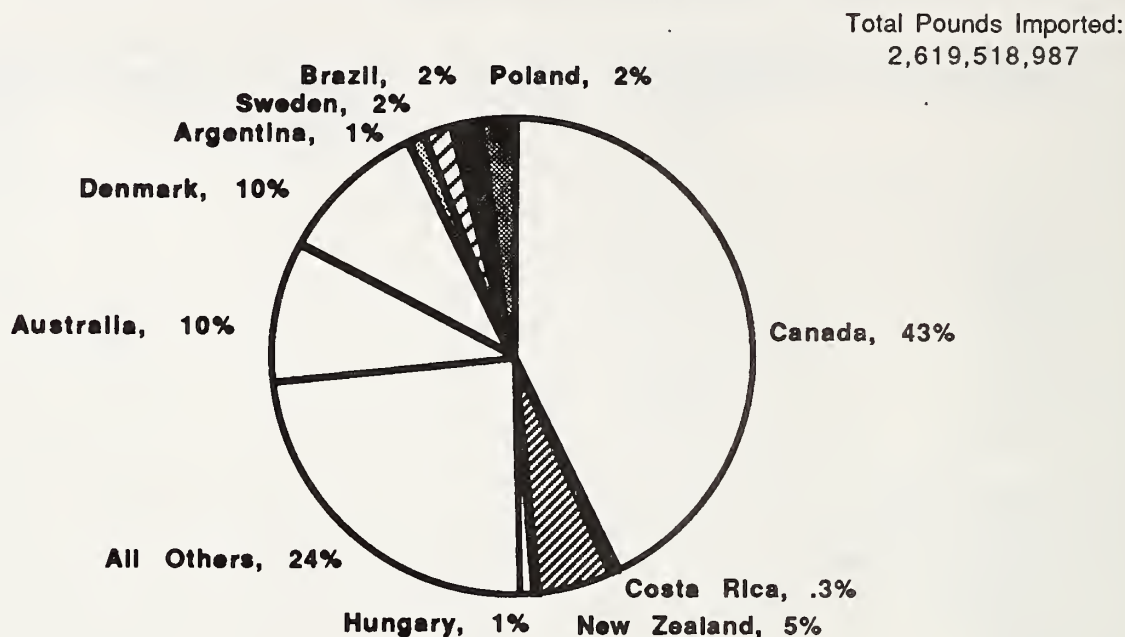
are listed for the following eligible countries, which did not export during 1987: Austria, England, Japan, Northern Ireland, Norway, Panama, Paraguay, Scotland, Spain, and Venezuela.

Table 18

Country	Authorized 1/1/87	Plants removed	Plants granted authorization	Plants reinstated	Authorized plants on 12/31/87
Argentina	18	3	4	0	19
Australia	132	20	16	7	135
Belgium	5	1	0	0	4
Belize	1	0	0	0	1
Brazil	23	1	2	0	24
Canada	566	3	28	3	594
Costa Rica	4	0	0	0	4
Czechoslovakia	2	0	0	0	2
Denmark	128	1	10	0	137
Dominican Republic	5	1	0	1	5
El Salvador	1	0	0	0	1
England	1	0	0	0	1
Finland	4	0	0	0	4
France	119	0	5	0	124
Federal Republic of Germany	19	0	0	0	19
Guatemala	2	0	1	0	3
Honduras	4	0	1	0	5
Hong Kong	1	0	0	0	1
Hungary	7	0	1	0	8
Iceland	3	0	0	0	3
Ireland	1	0	3	0	4
Israel	28	2	0	0	26
Italy	29	0	4	0	33
Netherlands	31	0	0	0	31
New Zealand	69	0	6	0	75
Panama	1	0	0	0	1
Poland	31	0	0	0	31
Romania	12	0	0	0	12
Sweden	13	0	8	0	21
Switzerland	8	0	0	0	8
Taiwan	0	0	1	0	1
Uruguay	19	1	2	0	20
Yugoslavia	14	0	1	0	15
Total	1301	33	93	11	1372

Certified Plants in Leading Export Countries. Figure 8 shows the number of certified plants in leading export countries during 1987.

Figure 8: Number of Certified Plants in Leading Export Countries-1,372



Foreign Countries Residue Testing Data. Table 19 summarizes residue testing data from leading exporting countries during 1987. Each foreign system is required to have a residue control program equal to that in the United States. Recent statutory amendments

require that residue control programs include random sampling of animals at slaughter, the use of approved sampling and analytical methods, and testing tissues for specific compounds identified as potential contaminants of meat exported to the United States.

Table 19

Country	Chlorinated Hydrocarbons	Organophosphates	Hormones	Trace Elements	Drugs
Australia	7467/22	2973/7	367/0	675/1	2679/1
Canada*	1851/5		2535/240	1610/30	8992/200
New Zealand*	3376/10		503/0	793/0	2561/44
Denmark	240/0	--	890/0	--	10060/3
Poland	8306/1	594/0	--	14828/0	1382/17
Argentina	150/1	126/0	152/1	16804/0	2447/0
Costa Rica	1898/2	49/0	55/0	246/4	89/0
Brazil	3305/22	188/0	285/0	716/0	4095/6
Hungary	1573/0	345/0	195/0	541/0	1991/0

Legend

000/00=Tests/Violations

Drugs=Antibiotics, Sulfa and Chloramphenicol

-- Not required to test

*Chlorinated Hydrocarbons and Organophosphates testing data combined

Import Inspection

Import inspection is a check on the effectiveness of foreign inspection systems in assuring wholesome, accurately labeled products that meet U.S. standards. FSIS uses data from import inspection, including randomly selected samples, to evaluate foreign inspection systems. About 134 import inspection personnel

carried out import inspection during 1987 at 168 official import establishments. Imported meat and poultry that undergoes further processing in the United States is subject to further scrutiny in federally inspected plants.

Figure 9 summarizes the volume of products exported to the United States by leading countries during 1987.

Ten countries were responsible for 95 percent of the products.

Figure 9: Volume of Products Exported by Leading Countries

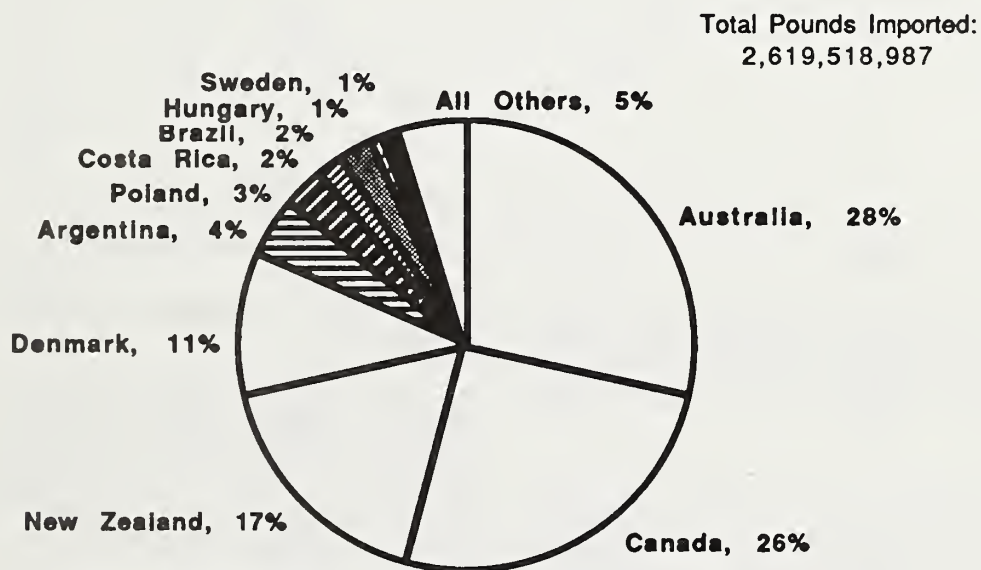
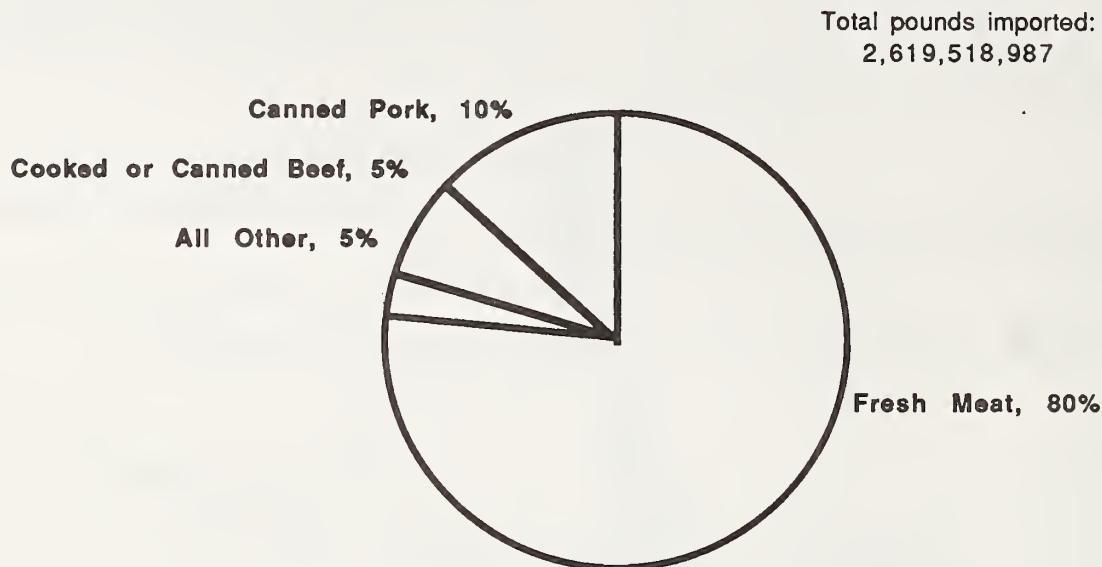


Figure 10 shows the major types of products imported into the United States during 1987.

Figure 10: Types of Products Imported into United States



Inspection certificates. An inspection certificate issued by the responsible official of the exporting country must accompany each shipment of meat or poultry products offered for entry into the United States.

Certificates identify products by country and plant of origin, destination, shipping marks, and amounts. They certify that the products received ante-mortem and post-mortem inspection; that they are wholesome, not adulterated, or misbranded; and that they otherwise comply with U.S. requirements.

Automated Import Information System. A description of each lot arriving at U.S. ports is entered into the Automated Import Information System (AIIS). This computerized system centralizes inspection and shipping information from all ports, allowing FSIS to determine inspection requirements based on the compliance history of each country and establishment. Information stored in the system includes:

- Amount and kind of products offered from each country and establishment and the amount refused entry;
- Results of certification and labeling inspections;
- Results of organoleptic inspection for defects such as bone, hair, and cartilage;
- Results of laboratory samples tested for residues,

proper cooking temperatures, economic, and other adulterants.

To assure that representative samples are selected, statistical sampling plans are applied to each lot of product to be inspected. The sampling plans and criteria for acceptance or rejection of imports are the same as those applied to U.S. meat and poultry products prepared under Federal inspection.

Residues in Imported Products. Imported meat and poultry products are sampled for the presence of chemical and drug residues. As for domestic inspection, shipments are not held pending laboratory test results unless there is some reason to suspect contamination.

If a laboratory reports a residue violation on a sample, which has otherwise passed reinspection, efforts are made to locate any part of the shipment that is still available. Products recovered are not allowed to be used for human food.

During 1987, 19,119 residue samples were submitted for laboratory analysis. In only 25 instances have products been found to contain drug or chemical residues exceeding tolerances.

Table 20: Products Passed for Entry

Tables 20 through 20D show for 1987 the volume of products imported into the United States from each eligible country and itemize each major product category.

Country of origin	Pounds of fresh meat and edible organs						
	----- Manufacturing	Carcasses and cuts	Beef Head meat and tongue	----- Edible organs	----- Manufacturing	Veal Carcasses and cuts	----- Edible organs
Argentina	0	0	0	0	0	0	0
Australia	588,233,002	110,634,027	3,496,557	67,260	3,788,491	550,554	1,039,430
Belgium	0	0	0	0	0	0	0
Brazil	0	0	0	0	0	0	0
Belize	22,954	7,884	0	0	0	0	0
Canada	71,410,673	66,724,726	1,679,541	101,717	70,284	8,041,341	0
Costa Rica	35,570,833	18,947,945	0	0	849	0	0
Czechoslovakia	0	0	0	0	0	0	0
Denmark	4,741,230	348,413	0	0	222,600	0	0
Dominican Republic	11,850,026	8,290,118	0	0	0	0	0
El Salvador	1,296,271	438,607	0	0	0	0	0
Finland	0	0	0	0	0	0	0
France	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0
Guatemala	11,269,941	6,452,283	0	0	0	0	0
Honduras	11,156,857	6,692,398	0	0	0	0	0
Hong Kong	0	0	0	0	0	0	0
Hungary	0	0	0	0	0	0	0
Iceland	0	0	0	0	0	0	0
Ireland	1,615,260	0	0	0	0	0	0
Israel	0	0	0	0	0	0	0
Italy	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0
New Zealand	376,111,417	39,793,660	891,040	118,320	7,690,973	4,847,222	560,919
Poland	0	0	0	0	0	0	0
Romania	0	0	0	0	0	0	0
Sweden	3,227,235	197,352	0	0	40,320	0	0
Switzerland	0	0	0	0	0	0	0
Uruguay	0	0	0	0	0	0	0
Yugoslavia	0	0	0	0	0	0	0
Total	1,116,505,699	258,527,413	6,067,138	287,297	11,813,517	13,439,117	1,601,287

Table 20A

Country of origin	Pounds of fresh meat and edible organs					
	Manufacturing	Mutton and Lamb Carcasses and cuts	Edible organs	Manufacturing	Pork Carcasses and cuts	Edible organs
Argentina	0	0	0	0	0	0
Australia	620,108	28,311,629	12,831	204,985	1,509,092	0
Belgium	0	0	0	0	0	0
Brazil	0	0	0	0	0	0
Belize	0	0	0	0	0	0
Canada	0	62,824	0	91,473,096	400,926,058	2,893,312
Costa Rica	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0
Denmark	0	0	0	46,530,919	70,822,033	28,754
Dominican Republic	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0
Finland	0	0	0	2,163,134	3,907,607	0
France	0	0	0	0	0	0
Germany	0	0	0	0	0	0
Guatemala	0	0	0	0	0	0
Honduras	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0
Hungary	0	0	0	0	0	0
Iceland	0	9,230	63,560	0	0	0
Ireland	0	0	0	5,640	0	0
Israel	0	0	0	0	0	0
Italy	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0
New Zealand	39,785	7,885,504	84,193	94,680	0	0
Poland	0	0	0	0	0	0
Romania	0	0	0	0	0	0
Sweden	0	2,229	0	3,018,396	18,486,199	0
Switzerland	0	0	0	0	0	0
Uruguay	0	0	0	0	0	0
Yugoslavia	0	0	0	0	0	0
Total	659,893	36,271,416	160,584	143,490,850	495,650,989	2,922,066

Table 20B

Country of origin	Cured beef	Cured pork	Sausage (Trichina-treated)	Cooked beef (restricted)	Other cooked beef	Miscellaneous	Horsemeat
Argentina	2,216,510	0	0	0	39,234,055	4,816,328	0
Australia	0	18	0	0	63,519	787,330	0
Belgium	0	0	0	0	0	0	0
Brazil	739,800	0	0	0	5,332,982	905,698	0
Belize	0	0	0	0	0	0	0
Canada	4,339	21,376,683	0	0	23,384	17,731,093	0
Costa Rica	0	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0	0
Denmark	0	7,457,070	0	0	0	8,639,563	0
Dominican Republic	0	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0
France	0	0	0	0	0	2,672	0
Germany	0	127,743	0	0	0	173,105	0
Guatemala	0	0	0	0	0	0	0
Honduras	0	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0	0
Hungary	0	5,718,728	0	0	0	1,404,416	0
Iceland	0	0	0	0	0	0	0
Ireland	0	24,842	0	0	0	32,170	0
Israel	0	0	0	0	0	6,366	0
Italy	0	2,825	0	0	0	0	0
Netherlands	0	31,200	0	0	0	0	0
New Zealand	32,573	0	0	0	0	69,926	0
Poland	0	620,484	0	0	0	0	0
Romania	0	1,894,831	0	0	0	27,846	0
Sweden	0	1,155,300	0	0	24,000	43,193	0
Switzerland	0	118,245	0	0	0	127,818	0
Uruguay	0	0	0	0	1,246,782	557,064	0
Yugoslavia	0	0	0	0	0	52,114	0
Total	2,993,222	38,527,969	0	0	45,924,722	35,376,702	0

Table 20C

Country of origin	Pounds of canned meat					
	Corned beef	Other beef	Hams-- under 3 lbs.	Hams-- 3-6 lbs.	Hams-- over 6 lbs.	Picnic hams
Argentina	38,025,182	7,354,804	0	0	0	0
Australia	313,564	91,756	0	0	0	0
Belgium	0	0	0	0	7,333,869	2,572,409
Brazil	32,904,562	8,891,114	0	0	0	0
Belize	0	0	0	0	0	0
Canada	0	549,401	0	13,320	206,149	2,015
Costa Rica	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	2,172,736	94,960
Denmark	36,000	0	4,544,372	1,284,161	94,915,407	17,684,320
Dominican Republic	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0
Finland	0	0	0	0	0	0
France	0	0	0	0	0	0
Germany	0	0	0	0	0	0
Guatemala	0	0	0	0	0	0
Honduras	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0
Hungary	0	0	320,400	1,029,878	16,722,983	6,637,332
Iceland	0	0	0	0	0	0
Ireland	0	0	0	0	0	0
Israel	0	0	0	0	0	0
Italy	0	0	0	0	13,032	0
Netherlands	0	0	4,861,308	83,515	194,135	3,960
New Zealand	1,222,677	0	0	0	0	0
Poland	0	0	1,240,008	13,367,599	50,283,902	10,378,173
Romania	0	28,800	0	0	5,714,936	3,897,393
Sweden	0	0	0	0	0	0
Switzerland	0	0	0	0	0	0
Uruguay	1,551,447	1,164,277	0	0	0	0
Yugoslavia	0	19,950	226,008	0	19,637,499	2,517,956
Total	74,053,432	18,100,102	11,192,096	15,778,473	197,194,648	43,788,518

Table 20D

Country of origin	Other canned pork	Chopped ham luncheon	Other canned meat	Pounds of fresh poultry	Poultry Pounds of miscellaneous poultry	Total pounds passed for entry
Argentina	0	0	0	0	0	91,646,879
Australia	0	88,490	778,743	0	0	740,591,386
Belgium	0	0	44,447	0	0	9,950,725
Brazil	0	0	0	0	0	48,774,156
Belize	0	0	0	0	0	30,838
Canada	0	0	3,003,228	2,087,137	1,697,769	690,079,028
Costa Rica	0	0	0	0	0	54,519,627
Czechoslovakia	0	0	0	0	0	2,267,696
Denmark	292,312	17,295,658	0	0	0	274,842,812
Dominican Republic	0	0	0	0	0	20,140,144
El Salvador	0	0	0	0	0	1,734,878
Finland	0	2,972,909	0	0	0	9,043,650
France	0	0	559,897	0	24,208	586,777
Germany	0	0	0	0	0	300,848
Guatemala	0	0	0	0	0	17,722,224
Honduras	0	0	0	0	0	17,849,255
Hong Kong	0	0	0	0	817,571	817,571
Hungary	1,434,936	1,241,072	0	0	0	34,509,745
Iceland	0	0	0	0	0	72,790
Ireland	0	0	8,467	0	0	1,686,379
Israel	0	0	6,142	0	2,518,503	2,531,011
Italy	0	0	79,403	0	0	95,260
Netherlands	0	7,472,165	44,900	0	0	12,691,183
New Zealand	0	0	0	0	0	439,442,889
Poland	822,744	3,996,353	0	0	0	80,709,263
Romania	44,688	1,825,403	0	0	0	13,433,897
Sweden	0	0	0	0	0	26,194,224
Switzerland	0	0	0	0	0	246,063
Uruguay	0	0	0	0	0	4,519,570
Yugoslavia	0	0	10,500	0	0	22,488,219
Total	2,594,680	34,916,242	4,535,727	2,087,137	5,058,051	2,619,518,987

Reasons for Product Rejection. Meat and poultry shipments found unacceptable during import inspection are refused U.S. entry. During 1987, adulteration with extraneous material was the principal defect found in fresh meat products.

Other defects for each product type are listed below in order of their occurrence as recorded during inspection.

Fresh beef and veal

1. Contamination
2. Unsound condition
3. Labeling defects
4. Pathology
5. Residues

Fresh mutton and lamb

1. Contamination
2. Unsound condition
3. Pathology
4. Residues

Canned beef

1. Container defects
2. Failure to meet product standards
3. Contamination
4. Labeling defects
5. Residues

Canned pork and other canned meat

1. Container defects
2. Failure to meet product standards
3. Labeling defects
4. Contamination
5. Residues
6. Undercooking

Cooked beef

1. Unsound condition
2. Contamination
3. Container defects
4. Pathology

Fresh poultry

1. Processing defects
2. Labeling defects

Specialty poultry products

1. Labeling defects
2. Container defects

Table 21

Table 21: Products Refused Entry

Tables 21 through 21D show for 1987 the volume of products refused entry from each eligible country and itemize each major product category refused entry or condemned.

Country of origin	Pounds of fresh meat and edible organs						Veal		Edible organs
	Manufacturing	Beef Carcasses and cuts	Head meat and tongue	Edible organs	Manufacturing	Carcasses and cuts			
Argentina	0	0	0	0	0	0	0	0	0
Australia	1,017,185	224,709	5,040	0	1,195	181	0	450	0
Belgium	0	0	0	0	0	0	0	0	0
Brazil	0	0	0	0	0	0	0	0	0
Belize	0	0	0	0	0	0	0	0	0
Canada	1,260,849	302,491	53,628	6,898	1,500	0	0	0	0
Costa Rica	160,235	72,778	0	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0	0	0	0
Denmark	129,300	0	0	0	0	0	0	0	0
Dominican Republic	534,627	163,067	0	0	0	0	0	0	0
El Salvador	60	0	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0	0	0
France	0	0	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0	0	0
Guatemala	48,660	236,848	0	0	0	0	0	0	0
Honduras	45,030	0	0	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0	0	0	0
Hungary	0	0	0	0	0	0	0	0	0
Iceland	0	0	0	0	0	0	0	0	0
Ireland	44,100	0	0	0	0	0	0	0	0
Israel	0	0	0	0	0	0	0	0	0
Italy	0	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0
New Zealand	280,795	79,049	0	0	1,500	0	0	0	0
Poland	0	0	0	0	0	0	0	0	0
Romania	0	0	0	0	0	0	0	0	0
Sweden	240	5,736	0	0	0	0	0	0	0
Switzerland	0	0	0	0	0	0	0	0	0
Uruguay	0	0	0	0	0	0	0	0	0
Yugoslavia	0	0	0	0	0	0	0	0	0
Total	3,521,081	1,084,678	58,668	6,898	4,195	181			450

Table 21A

Country of origin	Pounds of fresh meat and edible organs					
	Manufacturing	Mutton and Lamb Carcasses and cuts	Edible Organs	Manufacturing	Pork Carcasses and cuts	Edible organs
Argentina	0	0	0	0	0	0
Australia	37,560	124,075	144	0	0	0
Belgium	0	0	0	0	0	0
Brazil	0	0	0	0	0	0
Belize	0	0	0	0	0	0
Canada	0	69	0	740,883	1,637,589	5,216
Costa Rica	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0
Denmark	0	0	0	941,921	254,489	0
Dominican Republic	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0
Finland	0	0	0	6,300	2,440	0
France	0	0	0	0	0	0
Germany	0	0	0	0	0	0
Guatemala	0	0	0	0	0	0
Honduras	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0
Hungary	0	0	0	0	0	0
Iceland	0	6,871	240	0	0	0
Ireland	0	0	0	0	0	0
Israel	0	0	0	0	0	0
Italy	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0
New Zealand	0	28,808	60	0	0	0
Poland	0	0	0	0	0	0
Romania	0	0	0	0	0	0
Sweden	0	0	0	120	5,025	0
Switzerland	0	0	0	0	0	0
Uruguay	0	0	0	0	0	0
Yugoslavia	0	0	0	0	0	0
Total	37,560	159,823	444	1,689,224	1,899,543	5,216

Table 21B

Country of origin	Cured beef	Cured pork	Sausage (Trichina-treated)	Cooked beef (restricted)	Other cooked beef	Misc.	Horsemeat
Argentina	12	0	0	0	77,354	66,836	0
Australia	0	0	0	0	0	67,184	0
Belgium	0	0	0	0	0	0	0
Brazil	68,400	0	0	0	0	69,849	0
Belize	0	0	0	0	0	0	0
Canada	0	44,244	0	0	0	263,089	0
Costa Rica	0	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0	0
Denmark	0	63,576	0	0	0	41,065	0
Dominican Republic	0	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0
France	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0
Guatemala	0	0	0	0	0	0	0
Honduras	0	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0	0
Hungary	0	19,151	0	0	0	6,728	0
Iceland	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0
Israel	0	0	0	0	0	0	0
Italy	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0
New Zealand	0	0	0	0	0	0	0
Poland	0	0	0	0	0	0	0
Romania	0	50,710	0	0	0	0	0
Sweden	0	0	0	0	0	0	0
Switzerland	0	0	0	0	0	1,680	0
Uruguay	0	0	0	0	0	54,995	0
Yugoslavia	0	0	0	0	0	0	0
Total	68,412	177,681	0	0	77,354	571,426	0

Table 21C

Country of origin	Pounds of canned meat					
	Corned beef	Other beef	Hams-- under 3 lb.	Hams-- 3-6 lb.	Hams-- over 6 lb.	Picnic hams
Argentina	141,897	3,801	0	0	0	0
Australia	37,812	44	0	0	0	0
Belgium	0	0	0	0	14,941	7,603
Brazil	609,876	10,184	0	0	0	0
Belize	0	0	0	0	0	0
Canada	0	0	0	0	744	0
Costa Rica	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0
Denmark	0	0	53,916	38,874	656,429	55,630
Dominican Republic	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0
Finland	0	0	0	0	0	0
France	0	0	0	0	0	0
Germany	0	0	0	0	0	0
Guatemala	0	0	0	0	0	0
Honduras	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0
Hungary	0	0	0	38,920	36	0
Iceland	0	0	0	0	0	0
Ireland	0	0	0	0	0	0
Israel	0	0	0	0	0	0
Italy	0	0	0	0	0	0
Netherlands	0	0	4,898	0	0	0
New Zealand	40,329	0	0	0	0	0
Poland	0	0	4,800	535	79,048	24,882
Romania	0	0	0	0	150,514	117,418
Sweden	0	0	0	0	0	0
Switzerland	0	0	0	0	0	0
Uruguay	684	144	0	0	0	0
Yugoslavia	0	0	0	0	74,298	37,604
Total	830,598	14,173	63,614	78,329	976,010	243,137

Table 21D

Country of origin	Other canned pork	Chopped ham luncheon	Other canned meat	Pounds of fresh poultry	Poultry Pounds of misc. poultry	Total pounds refused entry
Argentina	0	0	0	0	0	289,900
Australia	0	0	38	0	0	1,515,617
Belgium	0	0	0	0	0	22,544
Brazil	0	0	0	0	0	758,309
Belize	0	0	0	0	0	0
Canada	0	0	41,048	1,041	330	4,359,619
Costa Rica	0	0	0	0	0	233,013
Czechoslovakia	0	0	0	0	0	0
Denmark	0	64,555	0	0	0	2,299,755
Dominican Republic	0	0	0	0	0	697,694
El Salvador	0	0	0	0	0	60
Finland	0	97,200	0	0	0	105,940
France	0	0	11,148	0	512	11,660
Germany	0	0	0	0	0	0
Guatemala	0	0	0	0	0	285,508
Honduras	0	0	0	0	0	45,030
Hong Kong	0	0	0	0	0	0
Hungary	0	0	0	0	0	64,835
Iceland	0	0	0	0	0	7,111
Ireland	1,500	0	0	0	0	45,600
Israel	0	0	0	0	8,670	8,670
Italy	0	0	0	0	0	0
Netherlands	0	73,603	0	0	0	78,501
New Zealand	0	0	0	0	0	430,541
Poland	0	35,929	0	0	0	145,194
Romania	48,776	67,984	0	0	0	435,402
Sweden	0	0	0	0	0	11,121
Switzerland	0	0	0	0	0	1,680
Uruguay	0	0	0	0	0	55,823
Yugoslavia	0	0	0	0	0	111,902
Total	50,276	339,271	52,234	1,041	9,512	12,021,029



Initiatives and Accomplishments

NAS Study on Poultry Inspection

In May 1987, the National Academy of Sciences released its report, Poultry Inspection: The Basis for a Risk-Assessment Approach. The Academy recommended that the Federal poultry inspection system place more emphasis on detecting microbial and chemical contamination. The study concluded that the current system of visual and manual inspections does not protect the public against microbial contamination, which is the most significant public health risk posed by consumption of chicken.

The Academy recommended that FSIS shift emphasis from the current bird-by-bird inspection procedures to a system that involves more rigorous testing of a random sample of chickens for both microbial and chemical contaminants. They also concluded that a risk assessment approach is needed to evaluate health hazards associated with poultry; and they developed a risk assessment model for FSIS that identifies production, slaughtering, processing/packing, distribution/preparation, and consumption as the five stages in which contamination of poultry may occur. The committee offered no quick solutions but instead urged FSIS to conduct studies to determine the major sources of contamination and to learn how to eliminate them.

In 1987, FSIS made much progress toward its goal of designing a poultry inspection system that places more emphasis on controlling areas of greatest risk and less emphasis on controlling aesthetic and other defects not hazardous to the public health.

The agency finalized facilities and equipment requirements for the new Streamlined Inspection System (SIS) for young chickens that was implemented in January 1986. SIS shifts responsibility for identifying aesthetic defects, such as bruises and broken wings, to the plant. USDA continues to monitor the effectiveness of the plant's controls by reviewing data from a statistically selected sample of carcasses. SIS evolved from several other inspection systems which shifted the quality control responsibility to plant personnel, including Modified Traditional Inspection, implemented in 1978; the New Line Speed Inspection System; implemented in 1984; and the New Turkey Inspection System, implemented in 1985.

The Agency also completed its first pilot test of "third generation" poultry inspection, a system whereby plant employees are trained to sort normal from abnormal carcasses. A computer is used to track the actions of the sorters and analyze each sorter's performance. A USDA inspector would monitor the plant's effectiveness by viewing each carcass and monitoring the computer screen. Third generation poultry inspection is an important step toward shifting the emphasis from bird-by-bird inspection by USDA, which the National Academy of Sciences said is not necessary from a public health standpoint, to a system involving greater focus on preventing microbial contamination.

In 1987, the Agency also began planning two additional research projects to be carried out in 1988: (1) pilot testing of a Hazard Analysis and Critical Control Point (risk assessment and management) system in a poultry plant and (2) further testing of the "third generation" concept.

FSIS also continues to adapt inspection systems used in poultry plants for red meat. Currently, FSIS is developing and testing new slaughter inspection systems for cattle and swine. A proposal on the new systems should be published in 1988.

Sanitation inspection. In 1987, the Agency completed implementation of a more systematic procedure for checking the cleanliness of poultry plants and the equipment in the plant before production begins. Implementation of these procedures began in 1983, but were put on hold until a task force examined their effectiveness.

Last year, a task force recommended several changes that would strengthen training and accountability: specific, standard procedures for determining how much of a plant can be inspected in a given time period; a "team" approach to training and to development of a plant's sanitation plan; more readable, easier forms to guide the inspector in sanitation inspection; and prohibiting operations until problems in that area have been corrected.

The changes were pilot tested in several plants before implementation resumed last year. The Agency will review the program for consistency and effectiveness and expects to implement it in red meat plants soon.

Processing Inspection Update

Discretionary inspection. The Processed Products Inspection Improvement Act of 1986, often referred to as the discretionary inspection law, authorized the Secretary of Agriculture to determine the manner and frequency of inspection in Federal meat processing plants. The law offers the opportunity to design systems that are better suited to a plant's record of performance and to its operation. It does not affect the requirement for continuous Federal inspection of slaughter plants.

In 1987, FSIS began pilot tests as a major step towards implementing this authority. Phase I of the pilot, which ran from April to June, was carried out in 14 plants in Tennessee. During Phase I, the Agency tested the screening process for selecting plants for periodic inspection and reducing inspector visits to twice weekly. Phase II of the pilot began in October and is scheduled to run through April 1988. This phase involves further testing of the screening instruments, testing periodic inspection monitoring plans, and randomly scheduling inspector visits.

FSIS plans to begin implementing discretionary inspection nationwide during the summer of 1988.

More information on actions the Agency has taken to implement a discretionary inspection system can be found in the Annual Report to the Committee on Agriculture of the House of Representatives and the Committee on Agriculture, Nutrition, and Forestry of the Senate, dated November 9, 1987, which was required by Public Law 99-641, "Futures Trading Act of 1986."

Implementing ISWP. In 1987, FSIS continued implementing strategies and programs to upgrade processing inspection in plants operating under the traditional method of inspection. The Inspection System and Work Plan, a major part of the upgrading effort, was implemented nationwide in December 1987. The system is being used in 5,600 plants. FSIS developed the ISWP system in 1986, and prior to national implementation, it was pilot-tested in 1,427 plants in five different locations.

The ISWP system provides a scientific approach to inspection coverage by assigning inspection frequencies and tailoring inspection requirements for maximum efficiency and effectiveness. Under the system, an Inspection System and Work Plan is designed for each plant, taking into account its products, processes, and other information. The inspector carries out assigned tasks at specific times and documents discrepancies.

A More Scientific Workforce

Advances in inspection technology, theory, and thinking demand personnel with advanced training. The National Academy of Sciences' 1985 report on the inspection program called for an inspection work force skilled in scientific areas such as statistics, food science, and microbiology.

The Agency responded by hiring and training its first class of food technologists, consisting of eight employees, in 1986. With participants in the second class, the number of food technologists in the Agency rose to 30. A third class started training in November 1987. The 27-week training program includes a combination of classroom and on-the-job training.

In another effort to upgrade the scientific knowledge of the inspection force, FSIS announced it will move its National Training Center from Fort Worth, Tex., to Texas A & M University at College Station. The University's College of Veterinary Medicine and Food Science Department will play a major part in training FSIS personnel to handle the complexities of food regulation. Current FSIS instructors will become adjunct faculty members.

The training center prepares veterinarians, food technologists, and inspectors for supervisory and inspection responsibilities. About 400 veterinarians and 1,200 inspectors and food technologists are trained each year. The center also trains State inspection personnel and foreign country nationals in meat and poultry inspection.

Courses taught at the training center will be transferred to the University. Plans call for conducting a full schedule of classes at the University by April 1989.

Microbiological Contamination

During 1987, FSIS continued its progress on the public health issue of microbial contamination of meat and poultry, both raw and cooked. This progress continued during a media controversy that served to highlight the public health issue of microbial contamination and make "salmonella" a household word.

The controversy began when a national wire story headline implied that the frequency of salmonella contamination on raw carcasses has greatly increased in recent years. In fact, the incidence has remained about the same over the last 20 years. Next, a national television program focused on salmonella contamination of poultry at a specific processing plant, and may have left many viewers with concerns about the effectiveness of poultry inspection.

The 1987 NAS study on poultry inspection, requested by FSIS as part of its long-term plan to modernize the scientific basis of inspection, concluded—and the agency agrees—that the current program cannot provide effective protection against microbiological contamination. The report, like many other scientific studies of the past 20 years, characterized salmonella and other microbial contamination as food-chain problems that cannot be solved through interventions at only one point—such as slaughter inspection. The report recommended formal risk assessment in order to determine the actions, or interventions, which should occur at “critical control points” throughout the food chain in order to prevent or minimize health risks.

Research. Salmonella has been the Agency’s main research priority since 1981, and the Agricultural Research Service (ARS) conducts basic research for FSIS needs. In 1987, live poultry research begun in 1982 continued. The research focuses on chemical or biological treatments such as competitive exclusion to eliminate or reduce the levels of pathogens in the intestines of the birds, so that they reach slaughter with lower levels of bacteria and also are less able to contaminate other birds. Positive results from this research can be expected to be adopted by poultry producers.

Other ARS research found that bagging poultry in individual plastic bags before chilling would reduce time needed for chilling and might reduce opportunities for cross-contamination in the chiller tank. Still other research suggested that spray-scalding could be as effective in loosening feathers as traditional immersion scalding, again a potential way to minimize opportunities for cross-contamination. Research will continue on these and other projects, such as a carcass washing system for large meat animals, which could lead to less microbial contamination at the slaughtering and processing stages. USDA is also researching the use of the “critical control points” concept in processing operations to prevent or minimize health risks.

Chik-Chek. FSIS announced its laboratory evaluation of a mail-order test kit whose promotional literature claimed it detected “Salmonella and other dangerous bacteria” in raw meat, poultry, eggs, and milk within 15 minutes. The test, Chik-Chek, did not perform reliably in USDA evaluations. For example, it detected bacteria in sterile solutions commonly used in laboratories—but failed to detect bacteria that had been purposely cultured. The Agency issued the consumer advisory because of concerns about the potential for food-borne illness if consumers were to base food handling decisions on test results. FSIS also asked the Federal Trade Commission to review the advertising and marketing of the product.

Monitoring programs. The Agency continued microbiological monitoring programs for raw meat and poultry, randomly sampling and testing for *Salmonella*, the strain of *E. coli* that causes bloody diarrhea, and *Listeria monocytogenes*. This strain of *Listeria* caused many deaths from tainted soft cheese in 1985.

Microbiological monitoring programs—determined by public health priorities and available staff, laboratory capability, time, and money—show trends and can alert the Agency to the potential for public health problems.

The Agency also began a monitoring program for *Listeria* in ready-to-eat products, using a new FSIS test. Although no cases of listeriosis (a nationally reportable disease since December 1986) have been associated with consumption of meat or poultry, the severity of the illness warrants preventive action throughout the food industry. The bacteria can grow at refrigeration temperatures and they appear to be more resistant to salt and heat than other bacteria. FSIS has contracted for research to investigate the heat resistance of *Listeria*. In addition, the bacteria are widespread in the general environment and have been cultured from the plant environment. Sanitation, particularly prevention of recontamination after processing and pest control, appears to deter the bacteria.

FSIS developed its monitoring policy after expert consultations with the Centers for Disease Control, FDA, and other public health agencies. One positive test does not trigger a voluntary product recall. Rather, plants with a positive test are given the opportunity to correct any deficiencies that could have resulted in the presence of viable *Listeria* bacteria on finished products. However, subsequent positives are likely to result in a product recall. The policy is intended to provide more information about the organism and to prevent public health problems. It can be quickly adjusted to protect the public health as more is learned about the bacteria and the illness it causes.

Microbiological Criteria Advisory Committee. As recommended in a 1985 National Academy of Sciences report, USDA and the Department of Health and Human Services have established a National Advisory Committee on Microbiological Criteria for Foods. The committee will provide a forum for Federal and State agencies to discuss problems in regulating the food supply with industry and academic representatives. Its first task will be to develop a priority list of those foods and ingredients for which microbiological criteria are needed and which can be incorporated into food safety programs on the national, State, and local levels.

The committee's charter became effective on November 25, 1987, and will expire in two years, unless renewed. Membership will include agencies within the Department of Commerce, the Department of Defense, and Health and Human Services as well as the Department of Agriculture.

Education and Information

The 1987 NAS report recommended systematic educational programs directed at poultry producers, plant and

retail employees, institutional food preparers, and consumers—as an important component of reducing food-borne illness. USDA has long played a vital role in food safety education dating to the early 1970's. FSIS distributes food safety information to consumers and other groups in many forms, including publications, press releases, response to correspondence, radio and television broadcast material, and through the Meat and Poultry Hotline.

The toll-free Meat and Poultry Hotline—in its second year of operation—has developed into an even more responsive force against food-borne illness. With innovative staffing, ongoing training, and an upgraded computer system, this year the hotline served more than 48,500 consumers—over 20,000 more than the year before.

Most calls—70 percent of all inquiries—were for basic food safety information. Interest in food poisoning bacteria, sparked by the media's focus on salmonella contamination, rose to 10 percent of all calls from 3 percent the first year. The percent of callers with product complaints dropped to only 1 percent compared to 2 percent the first year.

In addition, the hotline data base, which contains 2 years of information, has helped FSIS to better identify and target consumers' concerns and information needs.

FSIS also distributed over 1 million copies of consumer publications in 1987. The most requested were The Safe Food Book, Talking About Turkey, Safe Food To Go, and Meat and Poultry Labels Wrap It Up, the newest consumer publication. In an effort to target materials, FSIS provided 23,000 junior and senior high school home economic teachers with eight food safety publications for National Consumers Week.

In response to the salmonella controversy, FSIS developed and distributed "Salmonella Bacteria and Salmonella Food Poisoning: Questions and Answers." It provides basic information on the bacteria, the disease it causes, and the important role of food handling in preventing salmonellosis and other food-borne illnesses.

FSIS believes that these and other educational efforts have been successful in raising the awareness of more Americans about the importance of safe food handling.

Institutional food safety. To help combat the rising number of outbreaks of food poisoning in institutions throughout the country, FSIS developed a training program for use by food service managers to train their staffs on proper food safety practices.

The program includes a 30-minute videotape and a training guide that cover areas identified by food safety experts as the most critical: sanitation and personal hygiene, safe food preparation, preventing contamination, and safe cooling and reheating.

A marketing plan was developed to target food service operations in institutions serving those groups most at risk from hazards of food-borne illness—the aged, the very young, and the infirm. Hospitals, nursing homes, and schools were the first to be contacted about the new program.

Residue Prevention

The 1985 NAS report recommended that FSIS should shift the focus of its residue program from detection to the prevention of residues as early as possible in the production process.

The Agency began the National Residue Program over 20 years ago to help prevent drug and chemical residues in the meat and poultry supply. FSIS has worked with the Cooperative Extension Service, the Food and Drug Administration, and producer organizations to educate farmers on ways to prevent contamination. In addition, USDA has residue control agreements with 11 firms—including 34 plants that produce about 5 billion pounds of poultry, beef, and pork per year. USDA is now preparing to propose a regulation for these verified production controls, which should encourage even greater participation. Under the program, the firm controls production and tests products to prevent residues in food, and FSIS verifies that the controls are followed. In this way, problems that otherwise could lead to contamination are identified and corrected early in production.

In order to make residue sampling efforts more efficient, last year the Agency shifted responsibility for carrying out and supervising the execution of sampling from the Science Program to the Inspection Operations Program. The Agency also began implementing the computerized Residue Violation Information System, a nationwide tracking system for residue violators. The system will enable both FSIS and FDA to quickly and easily record all residue violations, identify repeat violators, and track each other's enforcement actions.

Residues in bob veal calves. USDA continues to deal with the problem of violative drug residues in young "bob" calves—calves weighing up to 150 pounds—that have been medicated shortly before slaughter. By implementing an implant testing and certification program, USDA was able to reduce the incidence of violations nationwide from about 7 percent of calves tested to 2 percent. However, some plants still had violation rates as high as 10 percent last year. Therefore, under an emergency rule, in January 1987, FSIS revised its implant testing effort and began testing up to 100 percent of young calves in problem plants, passing or condemning calves based on the implant Calf Antibiotic and Sulfa Test (CAST) which was developed by FSIS scientists. FSIS officials are evaluating the effectiveness of the new testing pattern before

deciding whether to adopt or modify the interim regulation. In addition, a proposal is being prepared calling for uniform language for calf certification.

Reducing sulfa violations in hogs. To solve the persistent problem of sulfonamide (sulfa) residues in swine, now in about 4 percent of hogs tested, FSIS is working with other agencies to intensify enforcement and with the industry in a multipronged effort.

FSIS' newly developed Sulfa-on-Site (SOS) test should prove helpful in controlling the sulfa residue problem in hogs because the test can be used to screen hogs for sulfa residues and to keep adulterated ones out of consumer channels. Industry and veterinary organizations and extension specialists are already using the test to help producers identify and correct sulfa problems. FSIS is conducting a 30-plant study to see how accurately inspectors can perform the test and interpret results. In addition, FSIS is developing a proposal that could include inplant testing of swine, holding of animals at the plant or in sulfa-free environments, and reduced official testing of pretested swine.

In another effort to reduce residues in meat and poultry products, USDA, in June, proposed regulations that would require that carcasses, condemned as unfit for food for humans because they contain potentially harmful residues not be used in animal feed. Currently, such carcasses may be used in animal feed if they are first treated to remove residues. However, the methods of treatment may not completely destroy residues, and the chemicals could be recycled to other food-producing animals and thereby contaminate the food chain.

Heptachlor contamination. In 1986, the pesticides chlordane and heptachlor contaminated the food chain when pesticide-treated seed used in gasahol production was made into mash and fed to animals. The resultant losses of dairy cows, milk, and other food animals in the Midwest cost American taxpayers at least \$10 million. In July 1987, an Arkansas U.S. District Court sentenced four former gasahol plant officials on felony convictions of selling tainted feed and polluting Arkansas streams and for misdemeanor charges, including discharge of pollutants without a permit.

Currently, USDA is working with the FDA and the Environmental Protection Agency to prevent illegal diversion of pesticide-treated seed to animal feed. FDA has stepped up monitoring of seed not intended for planting if the Agency has evidence that the seed is being diverted to feed use. An interagency task force recommended that EPA begin rulemaking to (1) limit heptachlor seed treatment to custom orders and (2) revoke regulations that now allow the use of treated seed in some animal feed. It is legal to use corn treated only with captan and then de-treated by roasting or washing to feed nonlactating beef cattle and swine until 14 days before slaughter. Investigations after the incident showed confusion about the captan exemption

and revealed violations of the captan regulations.

More than a year later, FSIS is continuing "hold and test" procedures at slaughter plants for suspect animals. The public health risks of eating contaminated meat were estimated to be low, except for farm families who could have repeatedly consumed contaminated milk and meat from their animals.

Scientific Initiatives

FSIS is using inplant and laboratory tests that identify species contained in meat products to determine label accuracy regarding the species present in the product. The consequences of species substitution include consumer fraud, misleading labels and health risks to persons allergic to certain meats or poultry. As a result of the new analytical techniques, 28 recalls were conducted in 1987 because of species substitution. Also, two court cases have led to fines for species substitution.

Field tests for raw products and emulsions. Three years ago, FSIS scientists developed the first species identification test called the Overnight Rapid Beef Identification Test (ORBIT). That inplant test rapidly shows whether raw meat is beef. Subsequently, two other species identification field tests were developed for raw products—Poultry Rapid Overnight Field Test (PROFIT) and the Pork Rapid Identification Method (PRIME). Now the three tests are part of the species identification field test kit. Inspectors use these tests to verify that products labeled meat or poultry actually contain these ingredients or that emulsions used to make hot dogs and bologna contain only the meat products that match their label. Meat plant managers can also use the tests to check the meat they purchase. SIFT kits, an explanatory manual and videotape were distributed to inspection personnel during the summer.

Laboratory test for cooked products. Last year, FSIS scientists achieved breakthroughs that led to development of species identification tests for cooked products. Scientists found the proteins for each species that survive cooking temperatures. The test is an enzyme-linked immunosorbent assay (ELISA). It is being performed in the three FSIS Field Service Laboratories as well as in the Methods Development Laboratory in Beltsville, Md., where the tests were developed.

To better use laboratory resources, FSIS initiated a species monitoring program in which the agency randomly selects samples for species testing from plants throughout the country. When positive results are found, FSIS notifies the plant management and requires immediate action to determine the cause of the problem and to make corrections. Additional testing then follows to ensure the problem has been corrected. If the problem persists, measures will be taken to

control product on hand and subsequent production.

In addition, FSIS scientists are working with industry so that ELISA tests for cooked product will become available to meat plants desiring to check their own product for species.

New standards for accredited laboratories. FSIS' accreditation program enables the Agency to use private and State laboratories to have many official tests performed without overburdening its own laboratories. The program also benefits plants willing to pay for official testing in nearby laboratories that can provide results quickly.

In early 1987, FSIS issued new accreditation standards for such laboratories, ensuring that their performance consistently meets the same standards set for FSIS' laboratories. FSIS also issued rules under which the non-Federal laboratories may challenge a USDA denial, withdrawal, or suspension of accreditation.

Test for trichina. FSIS has authorized a privately operated laboratory at Lundy Packing Co. in Clinton, N.C., to test swine immediately after slaughter for evidence of *Trichinella spiralis* infection. The laboratory has approval to use either a digestion method or a new enzyme linked immunoassay. Pork tested in the plant can be sold under a new "Certified Pork" label, that carries the explanation, "Trichina Tested." It is anticipated that this is the first of many tests, for use in abattoirs for detecting the presence of agents of human or animal health significance, that will be developed.

Enforcement Actions

The Processed Products Inspection Improvement Act of 1986 strengthened FSIS' enforcement capabilities. It gave the Agency additional authority to withdraw inspection or suspend responsible officials from a plant following conviction for misdemeanors or felonies, or repeated failures to comply with the Federal Meat Inspection Act. The law also permits temporary withdrawal of inspection when the safety of USDA employees is at stake.

In 1987, FSIS took several actions to implement the increased enforcement authority granted by the Act. The Agency twice initiated actions requesting a judge at sentencing to remove a convicted person from the plant prior to an administrative hearing.

FSIS also issued an interim rule on April 27 specifying requirements for notifying suspected violators of the Federal Meat Inspection Act that evidence will be referred to the Department of Justice for possible criminal prosecution. FSIS set forth this policy because the new law requires that suspected violators be given notice and an opportunity to present their views before USDA forwards evidence to the Justice Department.

The law also authorizes USDA to establish exemptions to the prior notice requirement in cases of compelling public interest.

In addition, the Agency revised its notification letter that is sent to companies being placed in FSIS' Intensified Regulatory Enforcement (IRE) program to clarify that individuals who repeatedly fail to comply with inspection requirements are subject to the provisions in the new law that would withdraw inspection services. FSIS developed the IRE program, now in its fifth year, when it recognized that a small number of packing plants cannot and will not operate within acceptable bounds that assure safe and wholesome meat and poultry products.

In 1987, the IRE program was upheld in court when a suit that challenged the legality of the program was dismissed. The suit had charged that the IRE program is invalid because it was not published in accordance with the Administrative Procedures Act. The judge held, in part, that the program "merely intensifies the inspection of problem plants to see if they conform to rules already in existence and to which the plants were previously subject."

Table 9 summarizes other enforcement actions during fiscal year 1987. Major violations of Federal inspection regulations can result in criminal prosecutions and court-imposed sanctions against firms, their owners, and other officers, as in these four cases, which are among the enforcement actions taken in 1987:

—The owner of a Seattle meat storage company was sentenced to 6 months in jail, 3 years of probation, and fined \$10,000 for storing adulterated meats and offering the products for sale. He was found guilty by a jury in the U.S. District Court of knowingly storing beef and pork products in a rodent-infested and defectively cooled facility and then offering the meats for sale.

—A meat distributor in North Carolina was fined \$11,000 and sentenced to 90 days in prison, given a suspended sentence of 1 year, and placed on 2 years' probation for violating the Meat Inspection Act. The meat distributor was found guilty of six felony counts of attempting to recondition dry sausage that had been returned to the firm because it was moldy and sour, and then reselling the product.

—USDA ordered withdrawal of its inspection services for an indefinite period from a Washington meat company after one of its officials was convicted of theft and bribing a witness. Under an agreement between the company and USDA, the withdrawal action will be held in abeyance as long as the company meets special provisions outlined in the order. Under a court order, the convicted official had to divest himself of stock holdings, business dealings, and operational ties with the firm, and has been prohibited from entering the plant at any time when meat inspection services are required.

—USDA issued an order to withdraw inspection from a Tennessee meat company after one of its officials was convicted on four misdemeanor counts of preparing misbranded sausage products. USDA tests detected poultry in sausage products labeled “beef” or “pork” when poultry was not listed in the ingredients statement. The actual withdrawal of inspection will be held in abeyance as long as the convicted official remains divested from the company’s finances and operation, and as long as the company complies with provisions outlined in the order.

In a related civil action, the convicted official was permanently enjoined from being responsibly connected with any federally inspected establishment. Under the meat inspection law, conviction for more than one food-related misdemeanor or for one felony is grounds for withdrawal of inspection. Withdrawal of inspection is a severe punishment, because Federal inspection is required before a firm can market its meat products in commerce.

Recalls. When meat or poultry products already in consumer channels are found to have potentially dangerous contaminants, FSIS works with the firm to recall the products and alerts consumers to the potential danger. FSIS conducts investigations to be certain that the recall was effective, and that corrections are made so that the firm distributes only safe and wholesome products. In 1987, nine recalls were handled in this manner.

For instance, a Tennessee company voluntarily recalled chili con carne and chorizo sausage because of contamination with *Staphylococcus aureus*, one kind of food-poisoning bacteria. No complaints of illness were reported from these products. In both cases consumers were urged to return the foods and were warned not to taste them.

In another instance, a Georgia firm voluntarily recalled its Breaded Chicken-Fried Beef Slimsticks after FSIS confirmed finding 1/4-inch and 1/2-inch metal fragments in some of the slimsticks. FSIS examined the product after schools in Oklahoma reported complaints.

Advisory Committee On Meat and Poultry Inspection

The meat and poultry advisory committee held a 2-day meeting in Washington, D.C., to discuss current policy issues affecting FSIS. These policies included: standards for frankfurters and similar cooked sausages, sulfite labeling, mechanical separation of meat, implementation of discretionary inspection, the NAS study on poultry inspection, the listeria testing program, the species testing program, and the European Economic Community’s third country directive and hormone directive.

The committee, composed of public health officials and industry, academic, and consumer representatives, advises the Secretary of Agriculture and makes recommendations on inspection issues.

Labeling Issues

Warning labels. In July, the Agency rejected a request of the Centers for Science in the Public Interest for mandatory “warning” labels on all raw products. FSIS urged meat and poultry processors to use labeling as a means of providing positive handling and cooking information, as recommended by the 1987 NAS study.

In December, FSIS developed the following “safe food handling” and “safe food care” statements for voluntary use on poultry labels:

- Keep all uncooked meats refrigerated or frozen until cooking—thaw in refrigerator or microwave;
- Cook this product thoroughly to an internal temperature of 180 F (For boneless product substitute 160 F. for 180 F.);
- Wash preparation surfaces and utensils after contact with uncooked meats; and
- For additional cooking and handling information, write to: (company name and address).

Lite and lean. Ground beef and hamburger are exempted from USDA’s fat labeling policy because the fat labeling of these products is successfully regulated by State and local governments. A revised labeling policy, issued November 1987, allows ground beef and hamburger to be labeled either “lean” or “extra lean” if they contain at least 25 percent less fat than required under Federal regulations. Both the fat percentage and the lean percentage must be included on the label so consumers do not mistakenly believe lean ground beef contains 10 percent or less fat.

Other lower fat meat and poultry products would continue to comply with the definitions that went into effect March 1987. They are:

- “Extra lean” is reserved for products containing 5 percent fat or less; the percentage of fat must be stated.
- “Lean,” “lite” and “low fat” can be used on products containing 10 percent fat or less; the actual fat content must be included.
- “Light,” “lite,” “leaner,” and “lower fat” can be used on products containing at least 25 percent less fat than the majority of such products in the marketplace. A statement must explain the comparison.

“Lite” sausage. USDA is reviewing comments on a proposal that would lower the fat content in cooked sausage products by allowing some fat to be replaced with added water. A combination of 40 percent fat and water would be allowed in the products; however, their fat content could not exceed 30 percent. The proposal responded to a petition by the American Meat Institute.

Sulfite labeling. Since July 1987, processors have to include sulfites on meat and poultry labels when the product contains confirmable levels at 10 parts per million or more of the substance. This labeling rule is consistent with FDA regulations for products other than meat and poultry.

Sulfiting agents include sulfur dioxide, sodium sulfite, sodium bisulfite, potassium bisulfite, sodium metabisulfite, and potassium metabisulfite. These substances may be used in ingredients added to stews and other processed meat or poultry products.

BHA/BHT. In September 1987, USDA approved the use of BHA (butylated hydroxyanisole) and BHT (butylated hydroxytoluene) in cooked and raw pizza toppings and meatballs to extend their shelf life. The substances may be used in combination at levels not to exceed 0.02 percent of the product's fat and oil content. While BHA and BHT are generally recognized as safe food preservatives by FDA, USDA must approve their use in meat and poultry products.

MSS. USDA is reviewing public comments received on a petition from four meat processors asking for changes in the labeling requirements for products containing Mechanically Separated (Species) (MS(S)).

Current regulations allow the ingredient at levels up to 20 percent of the meat and poultry portion of the product and require that it be listed in the ingredient statement as "mechanically separated (species)."

The petition asks that USDA instead allow the ingredient name—"pork," "beef," "lamb," or "veal,"—if the mechanically separated product constitutes no more than 10 percent of the meat and poultry portion of the product and if the calcium content of the meat product is stated on the label. Petitioners said the term "mechanically separated" carries an unwarranted negative connotation in the minds of many consumers, who are less likely to purchase products that list the terms on the ingredient labels.

To produce MS(S), carcass parts from which most of the muscle tissue has been removed are fed into specialized equipment that breaks them up and pushes them under high pressure against minute openings. The small openings allow a small amount of powdered bone to pass through along with the remaining muscle and other soft tissue.

Nonmeat proteins and flavorings. Under a proposed rule issued in 1987, yeast, milk, cereal, spices, and other nonmeat proteins would no longer be considered as meat proteins when determining how much water is added in cooked sausage products. Processors could continue using these nonmeat proteins in the products, but any water attributable to them would be considered added water.

The current 10 percent added water allowed in cooked sausage products includes water used in processing or from all ingredients, except the meat and poultry. To determine how much water is added in the product, water naturally present in the meat and poultry—the meat protein—is subtracted from total water in the product. If laboratory analysis shows that the finished products contain more than 10 percent added water, processors would have to modify the product recipe to reduce the amount of added water.

In addition, since nonmeat proteins are increasingly being used to enhance the flavor of meat and poultry products, USDA proposed to specifically identify substances that may be listed as "flavorings" on product labels. Ingredients that could be listed as "flavorings" include: natural spices, essential oils, oleoresins and natural spice extracts, powdered onion, garlic, and celery. The term "spices" would be used only when natural spices are used in the product. Currently, flavorings and spices are grouped in the ingredients statement.

The proposal would also require that nonmeat proteins be listed by their common and usual names, which would allow consumers to identify their origin. Such changes would help consumers who rely on labeling information to avoid certain ingredients for health, religious, or cultural reasons.

Ensuring Safe Imports

Certification of foreign residue programs. In 1987, FSIS began annual certification that eligible foreign plants maintain a residue control program that is at least equal to that of the United States, as required under the 1985 Farm Bill. Since implementing the provisions of the 1981 Farm Bill, FSIS has assured that eligible foreign countries exporting meat to the United States institute and maintain residue control programs. To certify foreign countries' residue control programs, FSIS reviews their analytical capabilities and residue sampling and laboratory procedures as well as their reporting of results and followup activities. Annual testing results are also reviewed to ensure that the country's results are consistent with port-of-entry results. Information for foreign plants certified in 1987 is reported in Foreign Countries and Plants Certified to Export Meat and Poultry to the United States, which is published as an addendum to this publication.

To improve the information FSIS has on each country's residue program, a questionnaire has been sent to each country to obtain more information on residue controls for products exported to the United States. The data will be reviewed during 1988. FSIS will conduct reviews which focus on critical elements in each country's program to assure residue standards are maintained. Port-of-entry testing will continue as a quality assurance program for monitoring imported products.

Residues in Australian Beef. In August 1987, USDA announced that it would not inspect Australian beef imports produced before May 25, when that country intensified its residue testing of meat destined for the United States. This action followed the eighth finding of violative levels of residues during the year. The residues included the pesticides heptachlor, dieldrin, DDT, and cyromazine. They were all in frozen, boneless beef and were detected as part of FSIS' ongoing import reinspection program.

Earlier in the year, FSIS increased testing of Australian meat products entering the United States, and conducted a special review of Australia's export procedures.

Later in August, USDA reached an understanding with Australia on how beef imports from that country would be handled before they are allowed to enter U.S. market channels. Beef produced prior to May 25 by 24 Australian plants where there was minimal likelihood of residue violations received intensified port-of-entry testing, but not additional procedures. Beef from another 41 plants was given additional sampling and testing prior to being presented for port-of-entry inspection.

Enhancing Export Opportunities

Third Country Directive. The United States has received an extension to April 1, 1988, for U.S. plants to comply with the European Economic Community's (EEC) Third Country Directive, which specifies operational requirements for meat processing plants exporting to the EEC. The deadline had been January 1, 1988.

During 1987, a two-tiered list of U.S. establishments was eligible to export to the EEC. The first portion included 76 establishments that were permanently listed and could ship products freely into all EEC member countries. A disproportionate number of these plants were cold storage companies, and none was approved for shipment of carcass beef. (In comparison, in 1985, 347 U.S. establishments were shipping to the EEC.) The second portion included establishments which could ship into member states only if those countries agree.

U.S. Trade Representative Clayton Yeutter and Secretary of Agriculture Richard Lyng discussed concerns about the directive with EEC representatives on many occasions, but the issue was not resolved. The United States asked that the dispute be referred to a panel under the General Agreement of Tariffs and Trade (GATT) in Geneva.

Hormone ban. During 1987, FSIS continued to work with representatives of the EEC to stop a planned EEC ban on all growth hormones in livestock, which was set to take effect on January 1, 1988. In November, the EEC Agriculture Council approved a 12-month

delay in the ban on meat products traded in the EEC.

The EEC ban would effectively cut off U.S. meat exports valued at \$106 million in 1986 (mostly in variety meats). An economic analysis by FSIS projected that U.S. producers would lose \$930 million--their entire share of the export market for beef, veal, mutton, and lamb--if the EEC and other countries ban growth-promoting hormones but the United States does not. The United States considers the delay a temporary measure that protects U.S. exports. However, in case this protection were to be compromised, the United States announced it would retaliate by increasing tariffs on various products from EEC members.

The U.S. believes that the EEC directive not only ignores the scientific opinion developed within the EEC organization, but that it also demands that countries like the U.S. act in ways that are in conflict with the scientific decisions made here.

Poultry trade with Great Britain. In June, FSIS approved the British poultry inspection system, allowing British poultry products to be sold in the United States. Previously, only Canada, France, Hong Kong, and Israel were eligible to export poultry to the United States.

At the same time, U.S. export markets expanded, as 15 U.S. plants were approved to sell poultry in Great Britain.

FSIS reviewed Great Britain's poultry inspection laws and regulations, and conducted on-site reviews of its inspection system, then determined that the system ensures that products exported to the United States are wholesome. This opened the way for Great Britain to certify establishments to export poultry to the United States, as long as each plant met U.S. standards.

British inspection officials concurrently agreed to accept U.S. certification of plants in this country which meet British standards. FSIS certified nine U.S. processing plants and six slaughter plants.


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